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JUN 26

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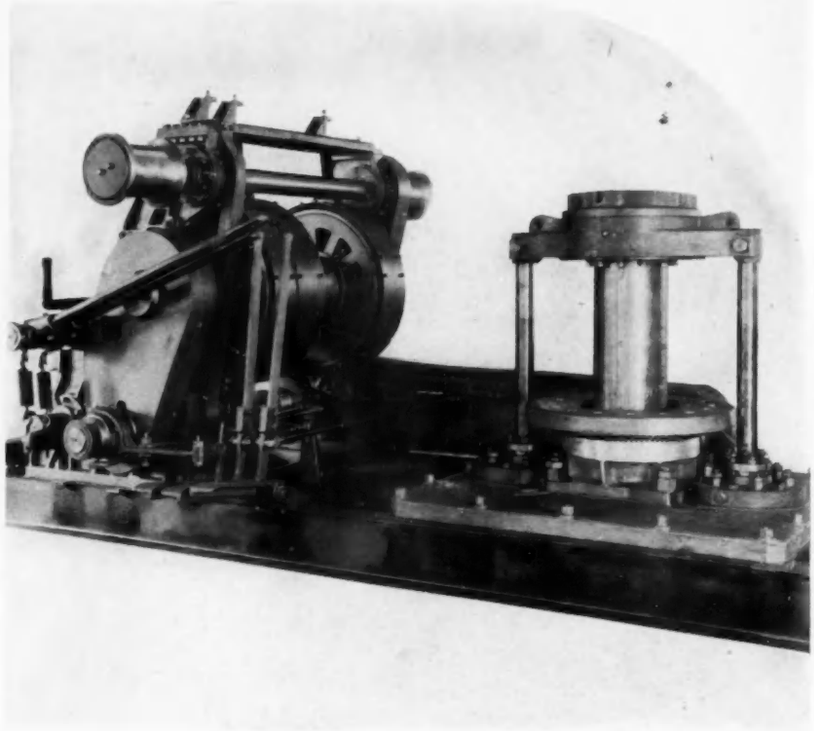

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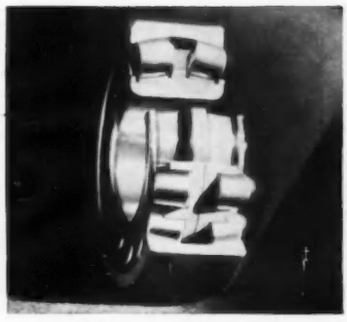

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VOLUME 73, No. 12 JUNE 4, 1934

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Consideration of the Ickes bill before Congress continues as the end of the session approaches. Expectation that the bill may pass are none too bright, although it has had much favorable comment both from members from oil states and representatives of the industry. In the main arguments pro and con have been less acrimonious than usual for such discussions, except for slight intemperance by Mr. Ickes himself and a few on the opposition.

In the meantime the federal administration has not taken advantage of its strengthened position following the New Orleans decision. Reports from East Texas indicate that hot oil production has not been abated. Washington hurried an enforcement officer to the scene in an airplane but the net result of his visit seems to have been concentration of federal agents at Dallas —removing them from the scene of action. Meanwhile discord in the state enforcement ranks has minimized the force of state authority.

Mr. Ickes has been given many jobs under the administration, so he is to be pardoned, perhaps, for being one-track as regards oil. That he is centered on one thing is apparent as he lets enforcement slide while he fights for removal of the limitation clause from his bill. Perhaps the purpose is to prove that without the proposed legislation he is powerless. If his bill does not pass, then what?

When the size of the East Texas field became known, 10,000 wells was the figure set as required drilling. Later that figure was pushed to 15,000. Now the total has passed 13,000 and some dare to predict 20,000 oil wells before the drills are through.

When the field had fewer than 10,000 wells, it had potential output in excess of 100,000,000 barrels daily by rapid and non critical calculation. The question arises concerning such potential when and if the wells reach 20,000. Or perhaps the new spacing rules will eliminate some prospects.

Always a Dollar?

It is unfortunate that the oil producer considers dollar crude oil a fixture. As a class they will think upon higher prices but the possibility of lower prices does not exist.

In May more oil wells were completed in the United States than for any other month in the past four years. More wells mean more oil.

The petroleum code, pending legislation and the attitude of the federal government may be strong forces. But they are not strong enough to keep a price structure fixed. Uncover sufficient crude oil and its price will drop.

The Oil Man's Calendar

JUNE
- 7-8 *Fire and Safety Marshals, N.P.A., Warren, Pennsylvania.*
- 14-15 *Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.*
- 25-29 *American Society of Mechanical Engineers, Denver, Colorado.*

AUGUST
- 24-27 *Drake Well Memorial Celebration, Titusville, Pennsylvania.*

SEPTEMBER
- 10-14 *American Chemical Society, Cleveland, Ohio.*
- 19-21 *National Petroleum Association, Atlantic City, New Jersey.*

OCTOBER
- 29 *American Gas Association, Atlantic City, New Jersey.*

NOVEMBER
- 12-15 *American Petroleum Institute, Dallas, Texas.*
- *American Association of Petroleum Geologists (Pacific Section), Los Angeles.*

Oil Outlook Generally Favorable

Stocks of crude oil and gasoline, reflecting fairly effective regulation of wells and refineries, fail to confirm claims that the industry's stability is in serious jeopardy. Higher prices prevail, and promise further satisfactory financial results in second quarter.

By **JACK LOGAN**

THE present general outlook in the petroleum industry is predominantly favorable, despite cries of alarm which have been raised lately by government officials and some leaders in the industry in pushing the proposed federal oil control law.

It is but natural that men with their hearts set upon securing passage of the bill should have endeavored to further their cause by painting pictures of wreck and destruction which might follow failure of the measure.

But the pictures have not been entirely convincing, when viewed dispassionately in the light of the facts and figures of relatively favorable existing conditions.

The talk of impending disaster through breakdown of crude production control in event the legislation bogs down simply fails to register upon the mind familiar with the statistics of the industry and with the circumstances, facts, and history affecting control of crude production, subject of the Thomas-Disney bill.

Control of Crude Appears Assured

Prominent among circumstances which tend to discount claims that the industry's stability is in serious jeopardy is the already existing authority of the federal government to regulate crude production under the NIRA petroleum code. This authority will continue until June, 1935, unless the Supreme Court next fall reverses the recent decision of the Federal Circuit Court of Appeals at New Orleans, upholding the oil code, or else throws the oil code administration out in another, similar case which went to the high court direct from East Texas. Even if the oil code should be held invalid in the Supreme Court, it would be only a few months until Congress could again consider federal oil control legislation, as it will convene again in January, 1935.

Meanwhile the industry can depend upon continuation of present and past fairly effective regulation of crude oil production by state agencies. Those bodies were the only government agencies functioning while crude stocks in the United States dropped from 538 to 360 million barrels between March 31, 1930, and August 31, 1933. In that period it was necessary to control flush output from such prolific fields as East Texas, Van, Conroe, Yates, Hobbs, Oklahoma City and Kettleman Hills. Through much of that period, furthermore, state oil laws, particularly in Texas, had not yet developed fully the strength which they now have.

Statistics Are Encouraging

Confidence that the oil industry's stability will not be upset, regardless of outcome of the Thomas-Disney bill, is strengthened by analysis of statistics covering recent months, including May. The figures tend to bear out contentions of opponents of the new legislation that crude production has not been actually excessive, despite output above the federal government allowables. They tend to show that instead of over-production, there has been under-estimating of demand for oils; that the allowables have been violated because they have not been high enough to conform with increasing demand.

It was recognition of this circumstance which prompted the large increase in the nation's allowable crude production effective June 1. The allowable was raised to 2,528,300 barrels daily from the 2,366,200 barrels per day authorized by the oil code administration for April and May.

Stocks Do Not Show Excess Output

While crude oil production has been above the federal government allowables during all but one of the nine months since advent of national regulation, crude stocks have declined in nearly all the months, coming down by a net amount of about 5,000,000 barrels.

During April and May the crude production allowables continued to be exceeded. In fact, the May excess was exceptionally large, amounting to about 130,000

barrels daily, exclusive of possibly 50,000 barrels of "hot" oil per day in East Texas. Yet at the end of May the nation's crude stocks are indicated to have been around or possibly under the amount on hand at the beginning of April.

During the two months the demand for crude was, moreover, artificially held down to some extent; as market requirements for gasoline and other petroleum products were supplied in part by withdrawals from stocks of those products held in storage. The stocks of finished gasoline were reduced 1,000,000 barrels in April and 1,500,000 barrels more in May.

Indicating that there has not been lately any actual overproduction of crude, the above facts tend at the same time also to discount greatly any cries to the effect that stricter control is needed to avert collapse of the industry's stability.

General Outlook Promising

While an optimistic attitude may, therefore, be reasonably taken with regard to the outlook for the future of crude production control, an even more sanguine feeling is justified with respect to the general oil situation. For there are various influences and factors of a distinctly encouraging nature.

The above circumstance, for example, of indicated crude oil demand in April and May in excess of government estimates is itself a good sign, as is the sharply increased allowable for June. The industry is not only entering upon its heavy volume season, but is finding demand more than seasonally high.

Another previously mentioned circumstance, substantial reduction of gasoline stocks during April and May, is likewise heartening. It reflects headway being made in better regulation of refinery operations under the amended refining section of the oil code and under the gasoline price stabilization plan which the integrated companies are carrying out voluntarily under sponsorship of the oil code administration, involving the fulfilling of part of their requirements by purchases of surplus or distress gasoline.

Prices at Higher Levels

While crude production control has continued fairly successful, gaining strength, in fact with the New Orleans decision, and while refinery operations have become much more satisfactory, there has developed, naturally, a marked improvement in the market situation. The improvement was under way during most of May, but was accelerated in the latter part of the month, when the inter-refinery purchases of gasoline stimulated prices sharply.

Crude prices have been at relatively high levels throughout the history of the oil code. Gasoline prices have not fared so well, but the gains of May have pushed them up to much more satisfactory levels. They have increased at filling stations throughout the country in recent weeks, and price wars are now ended in California, in Texas and other parts of the Mid-Continent, and on the Eastern coast, with substantially higher postings in effect.

Wholesale gasoline prices have responded appreciably to the inter-refinery buying, particularly in the Mid-Continent, and have been lately at the peak levels of the year in East Texas, with quotations among the best in the history of the big refining disrict.

During the past week refinery prices were for the most part stationary, after having risen sharply the preceding week. All grades of gasoline continued selling around the previous week's prices in the Oklahoma-Kansas region, and for East Texas the only change was a one eighth cent decline for third grade. The new prices for Group Three were 4¼ cents a gallon for third grade, 4¾ cents for middle grade, and 5 cents for top grade. For East Texas they were 4, 4½, and 4¾ cents, respectively.

Drilling Highest for Four Years

Improved prices, representing concrete manifestation of the various favorable factors in the oil situation, have generated confidence and optimism which are conducive to increased drilling. During May field activity was at the highest level since August, 1930, thus setting a record not only for 1934 but also for a period of almost four years. The average of 50.7 well completions for May was 15 percent higher than for April, and 100 percent higher than for May, 1933.

Earnings Expected to Rise

Since oil companies were able for the most part to realize substantial profit on their operations in the first quarter of 1934, it is to be anticipated that they will show even higher earnings for he second quarter. For the first quarter is ordinarily a relatively lean one for the oil concerns, with heavier volume of business coming in the second and third quarters, when gasoline consumption reaches peak levels. And this year the second quarter's results will be influenced not only by the seasonal increase in consumption, but also by the previously mentioned favorable factors, including rising prices, increase of demand not altogether seasonal, and generally satisfactory conditions.

First quarter financial results were better in general this year than they had been since 1930, with a high proportion of companies reporting substantial net profit, in contrast with large net loss in the 1933 first quarter. Contributing to the successful results were relatively favorable prices and a relatively large volume of business. Domestic demand for all oils was at an all-time first quarter peak, and total demand for all oils, including export demand, was at a first quarter level exceeded only in 1930.

Senate Committee *Reports Favorably On Ickes* Production Control Bill

Washington, D. C.—Paving the way for Senate action, the Senate Mines and Mining Committee submitted a favorable report May 29 on the oil control bill, taking as its basis the Disney bill as introduced in the House of Representatives, with some slight changes.

In amending the bill, the committee provided that state bodies may secure court review of any action of the Secretary of the Interior, and extended the limitation upon oil production to include products made from excess crude production.

In its report, the mining committee declared that "excessive supply of crude petroleum and products derived therefrom has injuriously affected commerce in petroleum."

"Besides the results usually coincident with excessive supply," it was pointed out, "the effect here is to render unprofitable the operation of wells of small but settled production and cause their abandonment before the economic yield is obtained, thereby causing waste of an exhaustible natural resource essential to our national defense, widespread unemployment and the destruction of small enterprises."

Referring to the fact that 90 percent of oil ultimately moves in interstate and foreign commerce and that the remaining 10 percent is so comingled with the other as to affect regulation, the report stresses the importance of orderly movement of oil in commerce which, it is asserted, can be accomplished only by action of the federal government, which control must apply to intrastate as well as interstate and foreign transportation.

The committee further pointed out that the small wells afford another reason for federal regulation, it being declared that of the 320,000 producing wells in the country, 250,000 have a daily average production of less than two barrels.

These wells would continue to produce for many years, it was pointed out, "if their abandonment is not compelled by the flooding of the market supplied with cheap oil from fields of temporary flush production.

"It is essential," the report said, "that restrictions be placed on the quantities which move in commerce and that fair and equitable apportionment be made among the states and different operators."

In a statement designed further to clarify the situation and settle the major controversy on the bill—that of the part to be played by state regulatory bodies under the legislation—Oil Administrator Ickes declared that "experience has shown that the states alone can not cope with excessive overproduction, which spreads its disastrous effects far beyond the boundaries of any single commonwealth, so that its destructive powers are nation-wide.

"A uniform program, jointly shared in by the states and the federal government would do away with erratic and disconnected regulatory plans and provide full conservation of petroleum resources for the national welfare and for the producing states.

"There have been several efforts in the past to work out a semblance of a uniform plan through interstate agreements, but these have been uniform only in their failure to succeed because first one state and then another would refuse to go along with its neighbors. The others had no recourse against the recalcitrant one except to adopt a form of economic hari kari and pour out their own oil."

The New Orleans decision, the administrator reiterated, does not make the oil-control legislation unnecessary but, on the contrary, "merely emphasizes the necessity for the bill and can be taken as an indication that such legislation would be upheld by the courts in the tests that can be expected from opponents if and when the bill becomes law.

"While the opinion sustains our belief that we can, under the national industrial recovery act and the oil code, use the federal power to assist the states in cooperative efforts to regulate production so that it will not exceed consumer demand," he explained, "it does not specifically provide an efficient method by which the federal agency may carry on a program for stabilizing the industry because 15 of the 18 producing states do not have state regulatory laws or agencies."

Permanent legislation, Mr. Ickes contended, will permit an efficient, long-time program and provide a method of meeting any of the sudden emergencies which can arise in the oil industry.

"Another factor which should be considered carefully," he added, "is that many of the states in which oil now is produced in considerable quantities, notably California, have no state regulatory agencies, but there always is the possibility that at any hour a great field may be brought in and unless the way is open for maintaining this field's production in accordance with national demand all other producing states must immediately suffer.

"There is no desire on the part of the federal agency to go within a state's borders to allocate the production to each well, so long as that state is keeping faith with its neighbors," he asserted. "If we are to have sound conservation and if we are to develop with stability this essential industry, there must be, strictly as a precautionary safeguard, optional permission to do so if states with or without regulatory agencies decline to adjust themselves to national consumptive conditions and forget that the market absorbing the production is spread over 48 states."

Ickes Again Urges *Bill Adoption As Hearing Opens Before House* Committee

Washington, D. C.—Declaring that stabilization of the oil industry is impossible "until an effective check has been placed upon the movements of the excessive supply existing at the present time far beyond our current market requirements," Secretary of the Interior Harold L. Ickes on May 30 urged upon the House Interstate and Foreign Commerce Committee the necessity of enacting the Disney oil control bill.

The bill before the committee is largely that favorably reported to the Senate this week as a substitute for the Thomas measure, which was the original Administration bill, with the sole exception of the two-year limitation inserted in the bill by Representative Disney of Oklahoma.

"No valid reason can be advanced to support the proposition that the wells of this country should be permitted to pour into the channels of commerce more oil than is necessary to supply our current requirements," he told the committee.

The secretary took advantage of his appearance before the committee to deny charges that imports have not been kept within the code limitation of 108,000 barrels a day, declaring that while imports now run about 113,000 barrels, approximately 22,000 barrels consists of fuel oil going into bonded warehouses, the ma-

jority of which does not enter into domestic consumption.

Opposing the two-year limitation upon the legislation, the secretary declared that the bill is not to be regarded as an experimental or emergency measure and that there "is little likelihood that we will not still have an excessive amount of potential production above market requirements two years from now."

A provision of the bill suspending the act when demand exceeds supply, he said, "should be sufficient to insure the termination of the powers granted in this bill when the need for their exercise no longer exists."

The whole purpose of the bill, he said, is to stabilize the industry upon a profitable basis, but it is not anticipated that the measure will result in an undue increase in consumer prices. However, he added, "I have never believed that the consuming public was entitled to buy any products at a price below the cost of production, whether it be cotton or wheat or oil."

"Thankless Task"

Appearing before the committee in support of his measure, Congressman Disney declared that the federal administration is not seeking "to place itself in a position of authority where it may direct" the industry, but is "accepting a responsibility and a duty" which he characterized as a "thankless task." The policies of the bill are not novel but are, in substance, those recommended at the oil industry conference in March of last year, he explained. Taking up the details of the bill, he asserted that the provision for cooperation with state agencies is not merely a formality but is "intended to protect and safeguard the rights of the various oil-producing states." Control of imports, the congressman continued, is one of the most vital aims of the measure, upon which depends the success of the whole effort.

With the exception of a requirement that imports of gasoline shall be computed as equalling twice as much oil in arriving at total imports, the bill contemplates practically the extension of the agreement made at the March conference.

Although enforcement of the federal allocations or of the state quotas made under such allocations have not been perfect, Texas feels that "the experiment which has been made justifies us in continuing it for a longer period, it was declared by Representative W. D. McFarlane (Graham, Young County). Agreeing that import restriction is particularly necessary, he told the committee that "if Texas producers are to benefit from limitation of the production of petroleum, we believe it is absolutely necessary that there should also be a definite limitation on the amount of foreign petroleum and its products which enter into competition with American oils."

The Kansas oil industry "would much prefer" not to be subjected to any national control or supervision, it was asserted by Congressman W. A. Ayres, but the results achieved under the oil code, while not satisfactory to everybody, have been such an improvement over previous conditions that the state would like the experiment continued. However, he insisted, it should be made clear that the Secretary of the Interior shall have no power to establish quotas for production from fields, pools or other sources of supply within any state which has a regulatory body whose effective orders keep production within the federal allocation.

Independents Approve

Continuing the defense of the bill on May 31, Harold B. Fell, executive vice president of the Independent Petroleum Association of America, speaking for 22 other organizations, declared those whom he represented were thoroughly in accord with the purposes of the measure. It is felt, however, that the import provision should be amended to limit imports to their present level throughout the life of the legislation. As written the bill provides that present levels should be maintained only to the end of 1935, six months after the expiration of the Recovery Act and the repeal of the present import taxes. This, Mr. Fell pointed out, would make possible an increase in importations although such was not intended by the framers of the measure.

Mr. Fell also opposed the provision that one barrel of imported gasoline should be counted as two barrels of oil, pointing out that by reducing gasoline imports it would be possible to bring in more crude.

Warning that if Congress grants Secretary Ickes a dictatorship he and his agents "will be run into the Sabine," Carl Estes, Tyler editor who also testified during the Senate hearings, declared that the bill should be amended to aid the entire industry, contending that as written it is aimed at East Texas. Estes declared the Texas Railroad Commission has played "peanut politics, and cannot control the situation, but suggested that the bill be amended to recognize the authority of state agencies to make allocations within their states. A similar recommendation was made by W. F. Weeks, also of Tyler, representing the Land and Royalty Owners Association of East Texas. Three hundred federal agents should be thrown into East Texas to control the running "hot" oil, he declared, adding that the results "would be well worth the cost."

Stressing the need for protection of the stripper wells, Judge Amos L. Beaty, chairman of the Planning and Coordination Committee, told the committee that if these wells were destroyed by any legislation the national loss would be great. One company abandoned about a thousand wells in 1931 as a result of conditions then existing, he said. The bill, Judge Beaty explained, recognizes the right of the states to regulate production but asserts a power which he contended Congress possesses to regulate all phases of commerce.

(Continued on page 40)

Texas Commission *Fixes Allowable for State* Above Federal Allocation

Austin, Texas.—The Texas Railroad Commission Friday repromulgated its statewide proration order which was originally issued on March 29, without changing the allowables for any of the fields.

The order provided, however, that adjustments could be made at any time, upon showings by operators of physical waste, or any development which might be considered confiscation of property.

The new figures allow the production of approximately 1,050,022 barrels per day, which includes an estimated allowable by commission engineers of 493,000 barrels per day for the East Texas field as of June 1.

The Bureau of Mines estimate of probable Texas consumer demand for June is 1,032,300 barrels per day, while figures presented to the commission by operators just before the hearing included nominations for the purchase of 1,128,307 barrels per day.

The new allowable, therefore, is 17,722 barrels per day above the federal allocation, but 78,295 barrels per day below the probable demand as indicated by figures filed with the commission.

Commissioner Thompson left for Washington Friday to attend hearings on the Disney bill, but some changes in the allowables are expected after he returns. These changes, however, will be minor adjustments which will make little difference in the state total.

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MEN IN THE INDUSTRY'S NEWS

C. P. **PARSONS,** Halliburton Oil Well Cementing Company of Duncan, Oklahoma, discussed oil well cementing methods at Mt. Pleasant, Michigan, May 28, before a group of 250 operators. The meeting was sponsored by the Oil & Gas Association of Michigan.

D. **BRUCE SEYMOUR,** geologist for Continental Oil Company in California, died at a hospital in San Bernardino May 27 as the result of burns sustained the night before when he tripped and fell into a barbecue pit. He is survived by his wife and small daughter.

S. R. **BOWEN,** president of S. R. Bowen Company, Huntington Beach, California, is due back home early in June after a business trip to New York and other eastern points.

J. S. **BECK,** sales manager for Drill Pipe & Casing Cutter Company, Los Angeles, placed his wife and children aboard ship late in May for a trip to Europe, where they will visit with relatives for three months.

RICHARD BARD was selected president of Graham-Loftus Oil Corporation of Los Angeles, California, at a recent meeting of the directors, and Chas. C. Perkins is vice president. Hugh B. Martin is general manager and Wm. Hendricks is manager of field operations in California. William Loftus, identified with the oil industry for 60 years, retires from active management to take it easy.

SELDON D. BUTCHER, consulting geologist and independent operator of Tulsa, has announced his removal to Houston where he will maintain offices in the Esperson Building.

E. **H. GADDIS** has been placed in charge of the recently reopened direct factory branch of Chapman Valve Manufacturing Company of Indian Orchard, Mass. Location of the branch is at 111 West First, Tulsa. Chapman products have been handled for the past several years by Taubman Supply Company in whose service Gaddis has been.

HARRY L. NOLAN has been appointed district manager for Oklahoma for Lincoln Engineering Company of St. Louis, and Rotary Lift Company of Memphis. W. C. Keefe will act as assistant district manager and Charles Holland as parts and service manager.

HUGH STURM of Sturm Drilling Company and Lloyd Noble of Noble Drilling Company, both of Ardmore, represented Tatums operators in a recent proration hearing in Oklahoma City.

L. C. **DECIUS,** chief geologist for Associated Oil Company, with headquarters at San Francisco, has been visiting offices of Tide Water Oil Company at Houston.

E. **GUMAN,** chief engineer for Societate Nationala de Gaz Metan, a Romanian gas company, has been visiting in Houston.

J. H. **HOWARD,** chief engineer, and R. A. (Buck) Weaver, salesman for J. H. McEvoy & Company, are touring North Texas and Oklahoma, visiting the offices of the more important oil companies.

M. R. **SHAFFER** has been promoted to the position of manager of production for the Empire Oil & Refining Company with headquarters at Bartlesville. He had served as superintendent of production for several years prior to the advancement.

M. R. SHAFFER

NEWT LONG, formerly with Denver Producing & Refining Company, has joined Mid-Continent Crude Oil Purchasing Company, as production superintendent.

DIED:

THOMAS G. LANEY, 84, pioneer producer and refiner, died at his home in Independence, Kansas, on Friday, May 25, following a short illness which had not been considered serious. He was born in Pembrock Dock, England, and came to the United States in 1870. He owned and operated refineries at Tarburg and Bradford, Pennsylvania, in the eighties and subsequently became the owner of production in Ohio and Oklahoma. Laney moved to Independence in 1917 and organized Safety Pulling Machine Company. He is survived by two sons, L. K. Laney, Fort Worth, and Thomas G. Laney, Jr., Tulsa, head of the Laney Company.

CHARLES P. LINK, 49, Dallas operator, died May 28 in a hospital at San Antonio, Texas, shortly after being stricken with a heart attack while on a business mission to the latter city. He had been active in oil circles for a number of years, serving as an official of the Taylor-Link Oil Company and later with Sequoia Oil Company, Fort Worth. The body was forwarded to Fort Worth, former home of the deceased, for burial on May 30.

JACKSON BARNETT, the world's wealthiest Indian, was found dead in his home early Tuesday morning, May 29, apparently having resulted from a heart attack which came as he was dressing. Although the old Creek tribesman's wealth had come from oil properties in Oklahoma, the state in which he had spent most of his life, he was living in a fashionable residential section of Los Angeles at the time of his death. His mansion on Wilshire Boulevard was being shared by Mrs. Annie Laurie Lowe, whose marriage to Barnett had been annulled by the government on April 1, 1934. Barnett was not sure of his age but it was generally believed to be 92 to 94 years. Action of the government in annulling the marriage and demanding return of gifts totalling more than $1,000,000 brought to conclusion 13 years of litigation involving control of his fortune.

Coming July 16

The second annual Gulf Coast issue of The Oil Weekly will be published July 16. Last year's Gulf Coast issue has been referred to as one of the outstanding accomplishments of The Oil Weekly—and this year's Gulf Coast issue will be handled in a manner to increase its value.

What the Issue Will Contain

Following is the editorial outline for this issue:

1. **A 43 x 22 inch map, on bond paper, in two colors, showing every oil field and known prospect in the Texas-Louisiana Gulf Coast, oil lines, gas lines, refineries, etc., with an up-to-date highway map superimposed over all. This will be an up-to-date reproduction of the same map which brought $1 per copy after our supply of last year's Gulf Coast Issue had been exhausted. No other map showing this data has ever been published.**

2. **A summarized history and statistical lineup on every producing field and known salt dome prospect, showing geological and discovery data, operations, production to date, proven area, deepest well and principal operators on those fields and prospects—a volume of information not available from any other source.**

3. **An article on Gulf Coast Reserves, by Alexander Deussen, an authority on the Gulf Coast salt dome country. (This is a part of our series on United States Reserves, and a very important part).**

The Oil Weekly

SECOND ANNUAL

Gulf Coast Issue

and Mid-Year Statistical Review

4. **An article on the utilization of Gulf Coast crudes, including data on the changing gravity of crudes in this area.**

5. **An article on Gulf Coast Drilling and Producing Problems, by a well known engineer and authority in the Gulf Coast country. This article will stress progress which has been made in technical phases.**

6. **The first of a series of articles on "Heaving Shale," a major operating problem not only in the Gulf Coast but elsewhere. This article, by Brad Mills, a staff writer, will be the forerunner of three articles on this subject, developed after months of research.**

7. **An article on pipe line developments in the Gulf Coast country.**

8. **Mid-year statistical review, covering field operations for the United States for the first six months of 1934.**

9. **In addition to the above this issue will carry the usual data which an ordinary issue of The Oil Weekly publishes each week.**

Single copy issues of this Edition will sell for 50 cents each. If you are a subscriber and want extra copies send your order in immediately, accompanied by check or stamps to cover charges. Last year our supply was exhausted within a very short time after publication date.

If you are not a subscriber to The OIL WEEKLY send in your subscription immediately, giving your name, address, company affiliation, with check for $1 to cover a year's subscription to begin with this Gulf Coast Issue.

P. O. Box 2811, HOUSTON, TEXAS

May Drilling at Four-Year Peak; Conditions Generate Optimism

THE petroleum industry had much to be thankful for during May, statistics for the month having added their salutary influence to a generally favorable series of developments.

In the May statistics could be seen evidence of better control of refinery operations and of continued success in regulating crude production. For gasoline stocks were reduced substantially, as they had been in April; and crude stocks were approximately the same at the end of the month as at the beginning, since an increase during the first week was followed by declines.

While the stocks of crude were held to little net change, production of the raw material was substantially higher, the greater output having been justified by increased demand; with the heavy gasoline consumption season getting under way.

Along with the satisfactory statistics and the favorable conditions which made them possible, there came during the month, particularly in the latter part, a marked improvement in the market situation. Crude oil prices remained unchanged at their relatively favorable levels. But the previously depressed gasoline prices made substantial advancement, increasing at filling stations throughout the country, including the Pacific Coast, scene of a long price war, and rising briskly at refineries, particularly in the Mid-Continent.

All of the above favorable circumstances, the successful control of crude production and refining operations, expansion of demand for oils with approach of summer, and the favorable prices, were naturally conducive to optimism; and the optimism was translated in part into a pronounced increase in drilling. Rising about 15 percent above the April level, drilling in May not only set a record for 1934, but also exceeded earlier records back for almost four years. Not since August, 1930, had field activity been at a higher level.

UNITED STATES CRUDE OIL PRODUCTION

Output in April, 1934, compared with preceding months.

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced.)

Month	Daily Average (barrels)	Federal Agency Allowable
Jan., 1933	1,960,400	.....
February	2,094,950	.....
March	2,176,550	.....
April	2,107,550	.....
May	2,681,050	.....
June	2,616,100	.....
July	2,650,500	.....
August	2,748,100	.....
September	2,568,250	2,413,700
October	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
Jan., 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	*2,495,427	2,366,200

*Preliminary, subject to revision.

Gasoline Stocks Lower

United States gasoline stocks declined about 1,500,000 barrels during May, after having come down 1,000,000 barrels the previous month. Prior to those two months of decline, the stocks had been rapidly and alarmingly rising, and the halting of the increase has had an encouraging and beneficial effect, contributing obviously to the strengthening of the petroleum product prices during May. On May 26 the total stocks of finished gasoline including natural gasoline which has been blended, aggregated 54,493,000 barrels, according to the American Petroleum Institute. On March 31 they had amounted to 57,098,000 barrels.

The April and May declines in gasoline stocks were due partially to two refinery control measures which have been inaugurated under the NIRA oil code. In the latter part of April the foundation was laid for better control of refinery operations through adoption of a new refining section of the code in substitution for the original section, and during May the gasoline situation was greatly improved through execution of an oil administration sponsored plan calling for integrated companies to voluntarily fulfill part of their requirements through purchases of surplus or distress gasoline.

Crude Oil

Output of crude oil during May aggregated 77,358,250 barrels, it is indicated from reports of the American Petroleum Institute covering most of the month. That figure does not, however, include "hot" oil. Such production has been occurring chiefly in the East Texas field, where it possibly averaged from 40,000 to 50,000 barrels daily during May. The nation's crude output exclusive of the "hot" oil averaged 2,495,427 barrels daily, or about 75,000 barrels per day more than in April.

For both April and May the national allowable crude production as fixed by the oil code administration was only 2,366,200 barrels daily. Thus for both

(*Continued on page* 38)

Monthly Summary of United States Drilling and Production, May 1, 1934

State—	Month of May, 1934 — Completions	Oil wells	Gas wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Cumulative, January-May, 1934, Inc. — Completions	Oil wells	Gas wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	172	113	12	47	104,414	16,083,400	758	493	53	212	457,386	73,571,700
Kansas	60	42	1	17	20,979	4,043,000	332	220	9	103	110,849	18,164,400
Texas	866	633	26	207	2,502,510	31,870,250	3,873	2,866	104	903	11,849,812	144,226,200
Louisiana	54	34	1	19	21,494	2,546,050	299	158	13	128	68,771	11,323,950
Arkansas	1	..	..	1	.....	949,050	22	6	..	16	935	4,702,300
Southeastern States	3	..	..	3	.....	.....	16	..	3	13	.....	.....
Eastern States	154	61	47	46	950	3,102,300	811	325	302	184	6,483	14,626,050
Michigan	40	27	5	8	12,177	986,450	182	125	15	42	81,391	4,238,850
Rocky Mountain States	21	16	1	4	2,242	1,296,400	68	46	4	18	7,197	6,031,900
New Mexico	7	5	1	1	1,195	1,426,050	33	21	4	8	33,375	6,541,600
California	42	40	.	2	57,775	15,055,300	211	145	..	66	192,642	70,995,804
Total	1,420	971	94	355	2,723,736	77,358,250	6,605	4,405	507	1,693	12,808,841	354,422,754

*Preliminary, subject to revision.

Increased Recovery

By Applying Air and Gas Pressure

To Oil Sands

C. C. HOGG
National Petroleum Company

Before Mid-Year Meeting American Petroleum Institute, Pittsburgh, May 22-24, 1934

THE writer of this paper lays no claim to originality in the application of gas, or compressed air, as aids to additional oil recovery. Neither is there an offering of any unique method. It is simply a description of some work that has had a measure of success, and in indication of the solution of some of the small oil producer's problems.

A paper was read at a recent A. P. I. meeting entitled "Results of Repressuring Depleted Sands in Old Pennsylvanian Fields." It was a splendid picture of several actual projects. However, exception is taken to part of the title, "Depleted Oil Sands" as applying to the Pennsylvania field. True, oil has been produced from some of our oil bearing sand for 75 years. Yet, analysis of cores taken in close proximity show oil content from 5000 to 30,000 barrels per acre still remaining in the sand. Even where most approved producing methods have been used, 40 to 60 percent of the oil is left in the sand. This assertion is borne out by cores taken after the area tested had been subjected to systematic water flooding.

Some oil sands may be washed clean of their oil, either by water artificially applied, or by the natural water encroachment in certain structure or with crude oil of a different character than the Pennsylvania grade crude. But the same properties which make our crude so desirable from a lubricating standpoint render it most difficult to extract from the sand. Hence the Pennsylvania oil sands are *not* depleted.

The assertion has been made that the Bradford development is a matter of mechanics: pump in sufficient water to fill up the sand and so much oil is displaced. Although this method may be successfully used in other places, perhaps the operators of the Middle Pennsylvania district have not been clever enough to make it work, or perhaps our broken sands are not adaptable. A less expensive, more satisfactory method for sand having characteristics of the original Pennsylvania field, must be developed.

Study Required

As has been often pointed out, the oil to be gotten easily, has been produced. The gas which provided the original driving force has been dissipated. The oil is held in place by its inertia or its adhesion to the sand. Provision must be made not only to pump the oil but to coax the oil into the wells to be pumped. Study is necessary as to the porosity, and permeability of the sandstone; the fluids, oil and water, together with the nature of the forces necessary to move them; capillary forces in the pore space, adhesion of oil to the sand grains and the elements to be considered in reducing the resistance these properties offer. It has been with this in mind that our work has been done.

First a knowledge of the sand is essential. We have five distinct sands.

The First, known to many as the Hundred Foot, is exceptionally adaptable to repressure development.

The Lytle or Red Valley, the upper part of the Second Sand Formation, is our cleanest, most uniform sand.

The Second, or Salt Sand, produces a heavier oil, some-

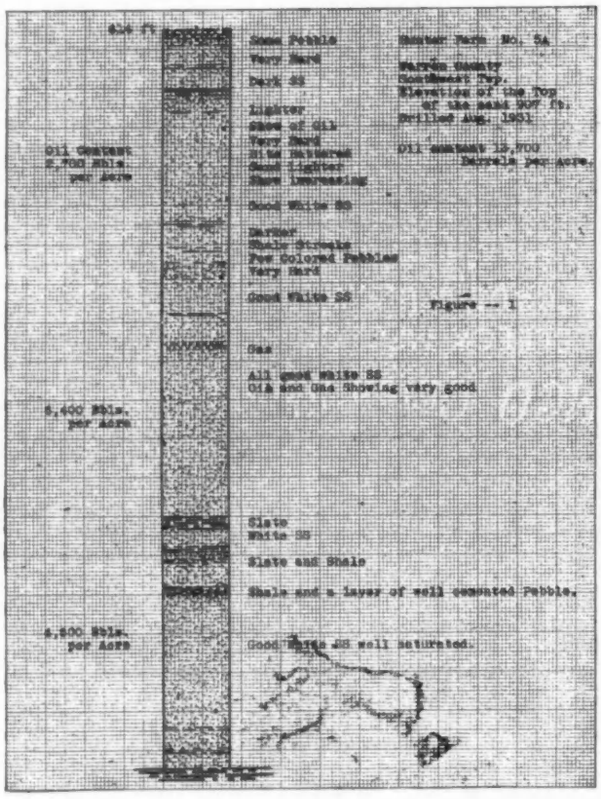


FIGURE 1

times darker, but at any rate, having the most lubricating stock of any of our crudes. Most satisfactory results are to be had by circulating gas in this sand. Sometimes air is detrimental.

The Grey Sand never had very large wells, but it is noted for the "staying quality" of its production.

Then the Third, known in other places as the Gordon Sand, is found over the largest area and contains the greatest amount of recoverable oil. All of these sands have been repressured successfully with air or gas.

Figure 1 is a typical section of the third sand as shown by core drilling. It illustrates the reason why geologists have called our Third Sand "Broken Sand Areas". There are many laminations. Each section has a porosity and permeability of its own. Some are highly saturated with oil. Some carry water. Others are barren, and there are some that are impermeable. On this account there is no vertical or component travel of oil or repressuring medium in the sand.

The variable permeability and the necessity for plugging off barren or undesirable strata has led to the development of a new idea in packers, and the use of what is termed "compound packers."

The old type cone packer, even with long rubbers, provided only a small surface, perhaps an inch or two, to contact the wall of the hole. Whereas the new "full expanding" packers provide a contact of four to seven inches, and also are held in a definite position by the upper and lower plate of the packer. A number of these may be placed on one string of pipe and all will "set."

As to repressuring medium, of course, gas is most desirable for it is highly soluble in oil under pressure, raises the gravity, thus reducing resistance to movement.

A recycling of gas in an oil sand has certain benefit due to its solubility, but unless additional gas is supplied from another sand, there is no building up of a rock pressure and result of such a project may be discouraging.

Some have tried to use the gases exhausted from their plant engines. This may be satisfactory if the gases are very carefully treated to remove corrosion-forming compounds, or if the pressure used does not go above 50 pounds per square inch. Otherwise, the products of combustion, when compressed, form very destructive compounds. The only justification for using exhaust gas is to remedy a bad air-gas mixture situation.

Of course, air is the cheapest and most widely used repressuring medium. It may be supplied at a cost of from 0.5 to three cents per thousand, depending on the compression installation and pressures required. The principal objection is due to the ever-present danger of explosive mixtures. However, there is a good slogan that applies here —"Any job is safe if you are careful." In any repressuring project with air, a means of determining the air or free oxygen content of the gas, returning from the producing wells, is essential. Tests should be made often and regularly of the fuel supply. Frequent tests should be made of the quality and quantity of gas, from each producing well. These tests give the best picture of the progress being made. They also provide a warning of by-passing, before any damage is done. Observation indicates that even though a lease produces but a little gas, under a repressuring program gas production will increase considerably. Air content will also gradually increase, until it reaches 60 to 70 percent air then it is apt to settle back, perhaps 20 percent.

An air injection seems to work best when the volume ranges from 1000 to 1500 cubic feet of free air per foot of effective producing sand in the well.

Figure 2 shows the production curve of a repressuring experiment, plotting production versus time. A-B was drill-

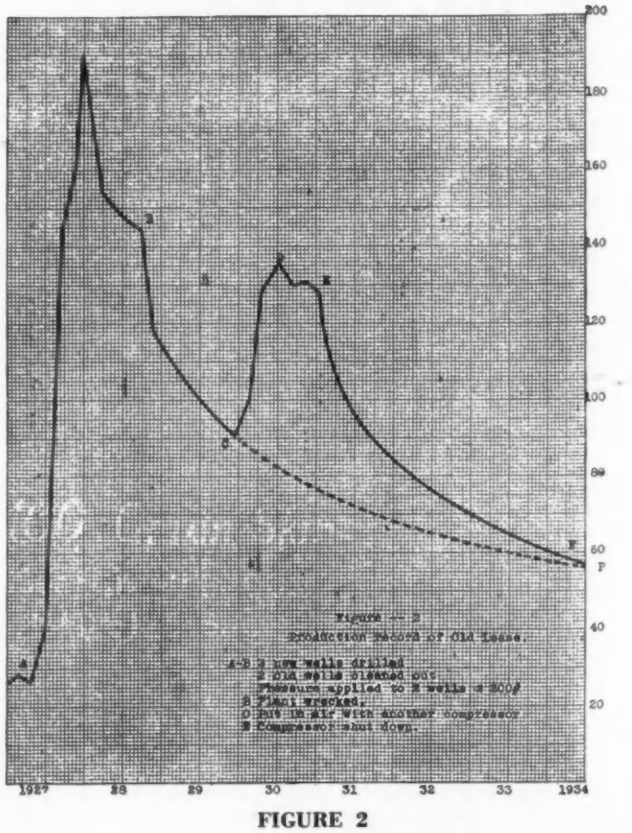


FIGURE 2

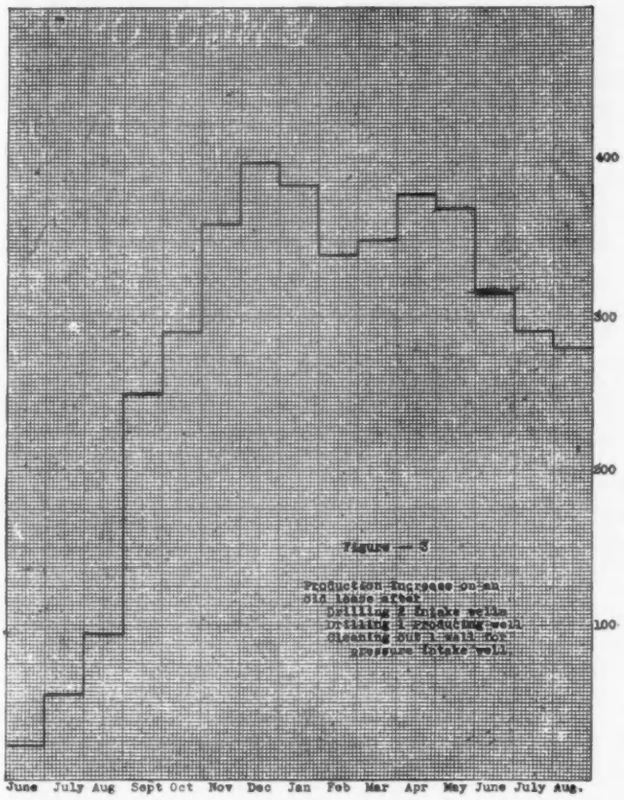


FIGURE 3

ing new wells and pumping in air at 200 pounds pressure. At B the engine was wrecked. B-C is actual decline, no air being injected; B-P dotted, indicates normal decline. C-D indicates increase due only to starting another compressor. D-E production maintained while compressor was operated; E-F natural decline after injection was discontinued; E-P normal decline becoming tangent with B-P at P.

The conclusions from this actual experiment are that the total oil produced by reason of air introduced is proportional to the amount of air injected and allowed to work through the sand. In addition to the oil moved by a given amount of air, the area C D E P actually represents the work expended in moving that much oil in the sand.

Figure 3 shows the production graph of a property on which two pressure wells were drilled. One producing well was drilled. One old well was cleaned out and used for a pressure hole. The total cost of the work was about $3000. The total oil produced from this property following this work was 4000 barrels in a year. The normal natural production would have been 360 barrels. This leaves a net gain of 3640 barrels, having a market value of $8625. The value of this work is therefore quite evident.

Figure 4 shows graphically the results of one of our older repressuring developments. It indicates that increased production due to this sort of work "holds up" well. This graph shows the production over a period of ten years and indicates reasons for the principal points of it.

The air-gas production from producing wells varies over a wide range. The various projects seem to be working most satisfactorily, when the wells make 4000 to 5000 cubic feet per barrel of oil produced. This amount should not be allowed to exceed 8000 to 10,000 per barrel. The air-gas production may be controlled by raising tubing, raising the working barrel in the tubing with a bleeder placed at the desired fluid level, or pinching off the gas, etc., although best results are accomplished by altering the pumping schedule, and controlling intake wells.

The most important consideration in this control is the location of the wells, that is, pressure wells with respect to producers. Not so long ago pressure intake wells were selected for almost any reason that appealed to the fancy. Perhaps it was cleaned out; packer cemented in; and a compressor started. Much or little air or gas going most anywhere. Later methods were improved by putting air in one well for every eight or 10 pumping wells. Most repressuring has been done on some such scheme. Sometimes a considerable measure of success has rewarded the operator.

Repressure "Patterns"

It has been found that by applying the Bradford methods of water flooding to a repressuring program—that is, by laying out a pattern, drilling it and using only new wells for pressure intake wells, the air can be controlled, the production increased and maintained to a remarkable extent.

The well known "five spot" has been tried, but a pattern similar to Figure 5 seems to provide a better control.

It is well known that our sands lie in streaks and are more permeable along the axis of the streak; therefore, for better results, the locations are lengthened along the axis of the streak and shortened crosswise as Figure 6. The probable action of the air and oil is indicated.

The extent of the ultimate oil recovery from this method is not known. However, from data we have, re-recovered between 10 and 12 percent of the oil shown by analysis of the cores during the first year. A greater ultimate re-

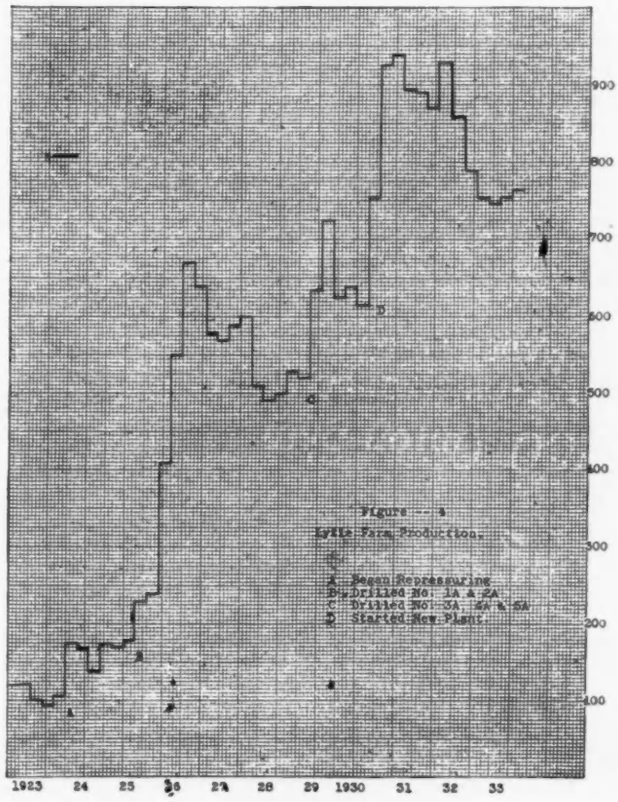


FIGURE 4

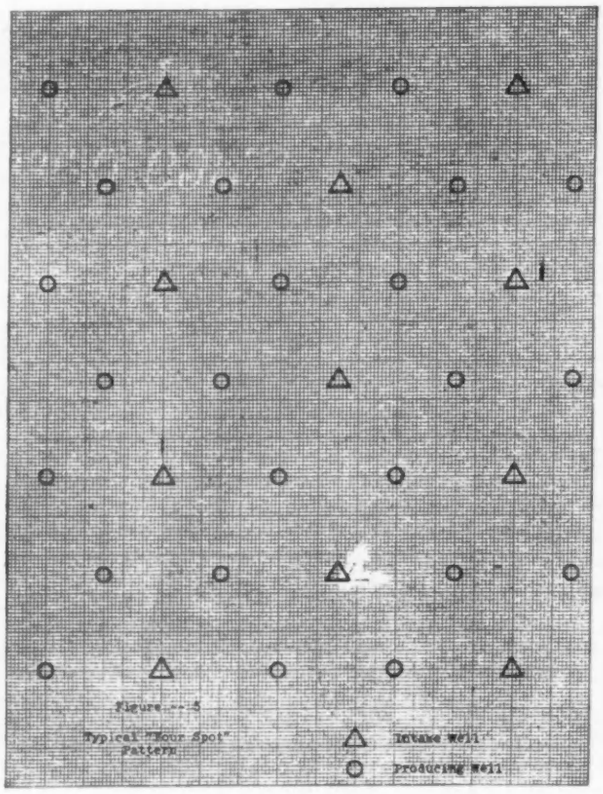


FIGURE 5

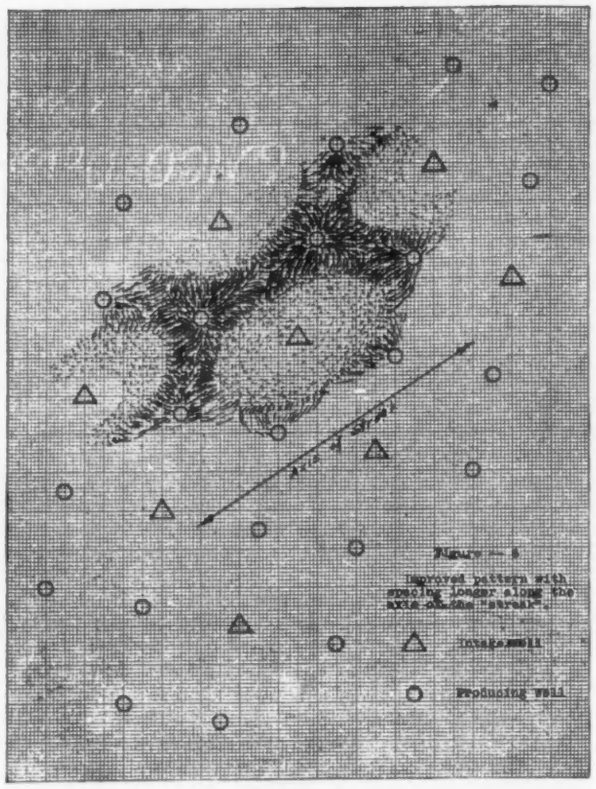


FIGURE 6

covery than has heretofore been thought possible with air or gas repressuring is anticipated. Computations indicate that sand having an oil content of 3000 barrels per acre or better in the Middle Pennsylvania district can be worked by this method on $2.00 oil.

As comparison of the relative effectiveness of the methods of repressuring discussed here, the following are actual recovery results from one of our properties:

Two years results from the use of gas and air introduced into three wells advantageously located but widely separated:

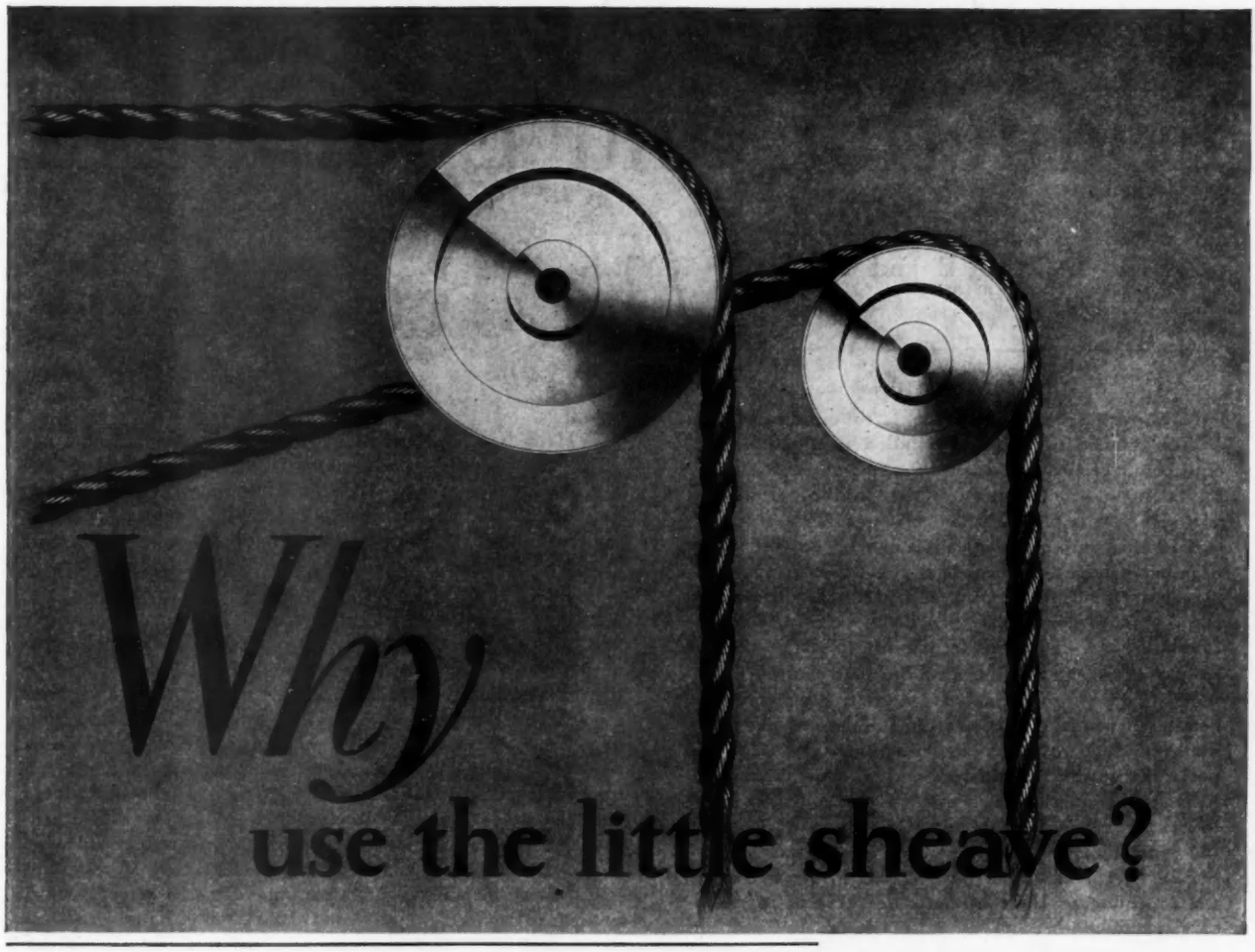
	Barrels
Total oil recovered	12,500
Probable recovery by natural method	4,800
Gain due to artificial method	7,700

Results for 22 months on same property but using pressure and producing wells drilled according to pre-determined pattern; using more pressure holes and less volume per intake well; using compound packers to permit use of different pressures on different parts of the sand in intake wells; carefully gauging the "through-put" both for intake wells and producing wells.

Lifting costs are not given, due to the many methods and basis of figuring such costs. However, if pumping, pulling, repairs, supplies, taxes, all expenses on the property itself are considered as the items of lifting cost, ordinary methods of repressuring will reduce lifting cost about 40 to 45 percent. With drilling and controlled re-pressuring total lifting cost will be only 20 to 25 percent of the cost of natural production methods.

	Barrels
Total oil recovered	30,030
Probable recovery using older method	9,605
Gain due to new method	20,425
Probable recovery due by natural method	3,960
Total gain due to repressuring	26,070

As to future—the writer is convinced that the Pennsylvania Grade Oil has sufficient inherent quality to retain its leadership and forge ahead in the manufacture of lubricating oil, thus insuring a better crude oil price and market. There are ample oil reserves still entrapped in the sands. In the Pennsylvania Middle district, especially, there are large quantities of oil in shallow sands that can be recovered at a very reasonable cost. With the present knowledge we have of artificial methods of moving oil in sand, we believe that mining by driving tunnels in the soft material under the sand permitting the working of holes, producing and pressure holes, on short spacing, with heat, pressure and chemicals, or both, is not only practical but would be profitable even with the present price of oil.



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Reduction of Lifting Costs Through Close Imspection of

Production and Equipment Records

C. L. MOORE and H. S. STARK

INTRODUCTION

THE purpose of this paper is to emphasize the importance of keeping detailed production and equipment records in order that full advantage may be taken of their interpretation towards lowering lifting costs.

The most important question concerning the value of good production records is the expense an operator may incur in keeping records and still show a comfortable margin of profit above the cost of tabulating the data. It is impossible to state definitely just where the dividing line lies between the maintenance of an over-elaborate system of records as compared with the case wherein the lack of pertinent data may lead to incorrect deductions. From the experiences covered in this paper it is concluded that, if proper deductions are made from collected data, the expense required to install a system of keeping the important production records is well warranted.

The first part of the paper deals with a group of wells producing light oil and the efforts to maintain production costs at a minimum by keeping various records. The second part of the paper illustrates the necessity of proper individual well gaging on a group of marginal wells producing heavy oil. The producing operations, but more especially the control of direct pumping costs, which are discussed in this paper refer to actual experiences of certain operators in the Buena Vista Hills field in California.

The first group consists of some 140 wells, drilled to an average depth of 3100 feet, from which is pumped 27-28 gravity oil through 2½-inch tubing. In the majority of cases this production is recovered by the common California type of cast-iron liner and steel plunger pump. The surface equipment consists of 122-foot derricks with two-speed oil-well motors driving the walking beams through the conventional standard end by means of flat belts and countershafts. Oil production averages approximately 25 percent water; but the water is not markedly corrosive, and no difficulties are encountered on account of emulsion. Sand trouble is not excessive, and the wells in general need bailing only at one- to two-year intervals. Gas-oil ratios range from 1000 to 5000 cubic feet per barrel of oil. All wells have individual traps, and tank facilities are so arranged that each well can be gaged at least part of every 24 hours.

This paper was read at the Mid-Year Meeting, American Petroleum Institute, Pittsburgh, May 24, 1934. **The authors: Mr. Moore, is with Chanslor-Canfield-Midway Oil Company, Fellows, California, and Mr. Stark, Honolulu Consolidated Oil Corporation, Taft, California.**

IT HAS been the practice of the operator to employ a full-time pump repairman to re-fit, clean up, and keep records of all the new and used pumps. His employment has been amply justified by the greatly reduced yearly cost for replacement of slightly worn pump fittings, which were formerly discarded by the commercial shops and replaced with new parts.

Each worn pump brought in for dismantling is carefully micrometered for plunger and liner wear. A card showing the original fit, date of installation, and well number enables the repairman to send out a new plunger of the correct over-size when necessary, and to credit each worn pump or plunger with the total barrels of fluid that it produced before wearing down to a point where it needed replacing. One interesting conclusion on pump wear is the fact that in the wells described, and with the gravity of oil already mentioned, common liner pumps cease to produce oil when the clearance between the plunger and the liner averages 0.030 to 0.040 inch on wells running 21 strokes per minute, while the wear cannot exceed 0.015 to 0.025 inch on wells running from six to 11 strokes per minute. Results of several years' experience showed that plungers 60 inches in length lifted an average of 37 percent more total fluid than 48-inch plungers, both working in 10-foot jackets. Previous practice had been to purchase only the lowest priced balls and seats, and to re-grind the balls into the worn seats as many times as possible. This practice was found to be very poor economy; for, although some valves stood as many as six re-grinds, the number of pulling jobs for cut seats became excessive. A change was made to improve this condition by purchasing the more expensive stainless-steel balls and seats. It is also now the practice to install double travelling valves. The top valve on the plunger in the great majority of cases shows the largest amount of wear, but as a result of the foregoing changes pulling jobs for valve trouble alone have been almost entirely eliminated.

Service records of re-ground plungers and re-bored liners have been kept over a period of five years, but in only one of those years has their performance surpassed that of new equipment. The recently-introduced hard liners are making remarkably good records, and appear destined to become standard equipment; but the performance of chromium-plated plungers has been a disappointment on a cost-per-barrel basis.

The one really outstanding innovation in pump assembly has been the addition of a four-cup attachment to the lower end of a standard plunger with a valve above to prevent undue expansion of the thin cup mandrel. This construction has more than tripled the average plunger life on slow-motion wells at which reduction in speed had already improved plunger life over the previous average under higher speed of plunger travel. Cup pumps, which were originally very strongly favored in wells produced by slow-motion

pumping, consistently showed higher operating costs than the foregoing type of pump assembly.

Well-Interruption Records

Due to the initiative and persistency of the production foreman, accurate well-interruption records have been kept over a period of six years. These records revealed that over a three-year period an average of less than 40 percent of

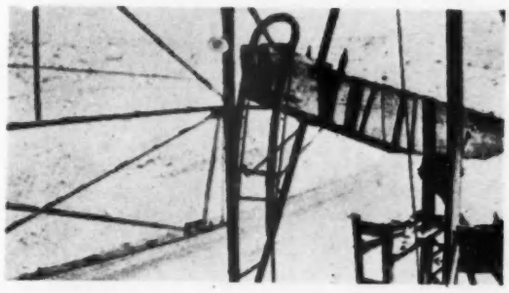


FIGURE 1

the total down-time was actually attributable to pump and plunger repairs, and the remaining 60 percent of the well interruptions would have to be accounted for by failure of some part of the remaining producing equipment. It was soon apparent from a detailed study of the well-interruption records that the down-time not directly accountable to pump repairs was primarily due to several types of failure, which are discussed later in turn; and steps were taken at once to minimize the time during which wells were off production due to these causes.

As part of the program of reducing down-time due to unscrewed sucker rods, resort was made to the use of special long-handled rod wrenches; and more careful instructions were given to well crews in snapping up each pin and box. Belt-clamp troubles were also greatly decreased by a program of gradually replacing the common straight-bar type clamp with one conforming to the pulley-crown and having curved lower edges and a rubber center.

Troubles with the wire-line slings or reins connected to the beam hangers due to breakage or unstranding increased to a point out of proportion to their service, and this condition had to be rectified. The homemade horse-head beam hanger shown in Figure 1 was then designed to be manufactured out of lease materials; and, after the first 10 were produced, dies and jigs made their manufacture possible at a very low cost. In 1931, when only five percent of the active pumping wells were equipped with these devices, a total of 97 sling failures caused down-time for that year. However, with 28 percent of the wells equipped in 1932, there were only 53 sling failures; and this was further reduced to only three for the year 1933, when 69 percent of the wells were so equipped.

In addition to practically eliminating sling troubles, the above-mentioned type of beam hanger, by giving the polish-rod straight-line motion, reduced the yearly cost for stuffing-box packing to 52 percent of its previous average. Although this item in dollars per well per year is very small, it must be borne in mind that the labor of packing the stuffing box, the polish-rod wear, and the lost oil through the leaking stuffing boxes were also reduced in the same proportion. Prior to the installation of the horseheads a large number of slings were suspended over a cast-iron pulley laid in the conventional end notch of the walking beam. The lubrication of the gudgeon in this position was both difficult and dangerous, and was, therefore, grossly neglected. Without lubrication this arrangement placed more stress on the outer sling line in the upper half of the stroke and on the inner sling line on the lower half of the stroke, with the result that this reversal of stress in the polish rod immediately below the hanger caused frequent

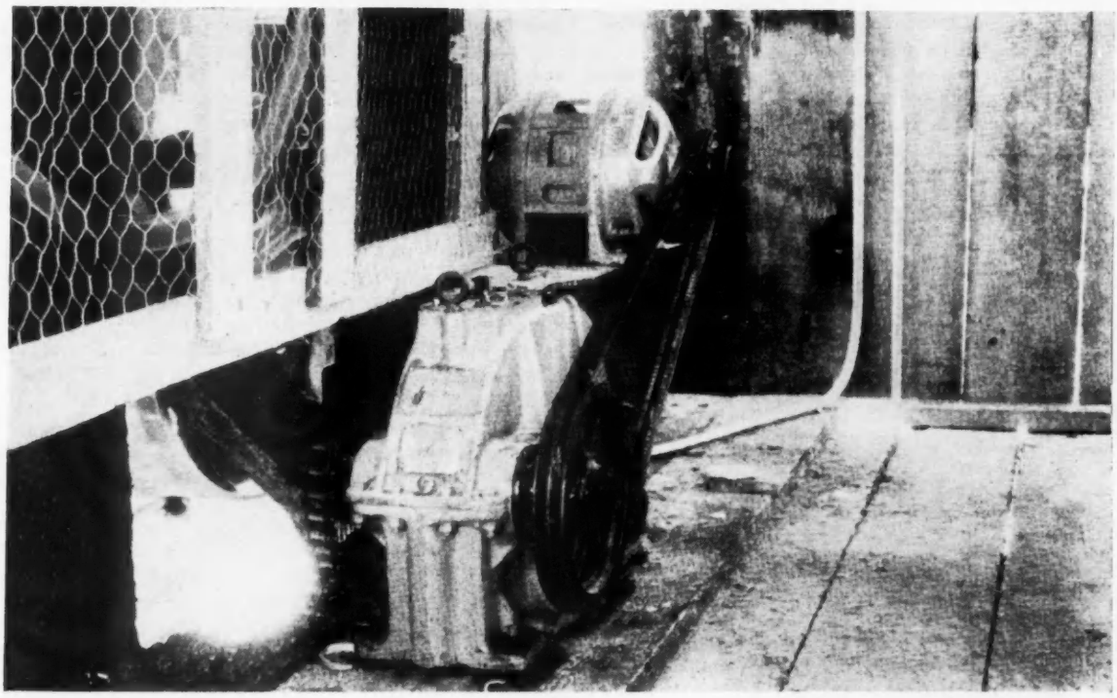


FIGURE 3

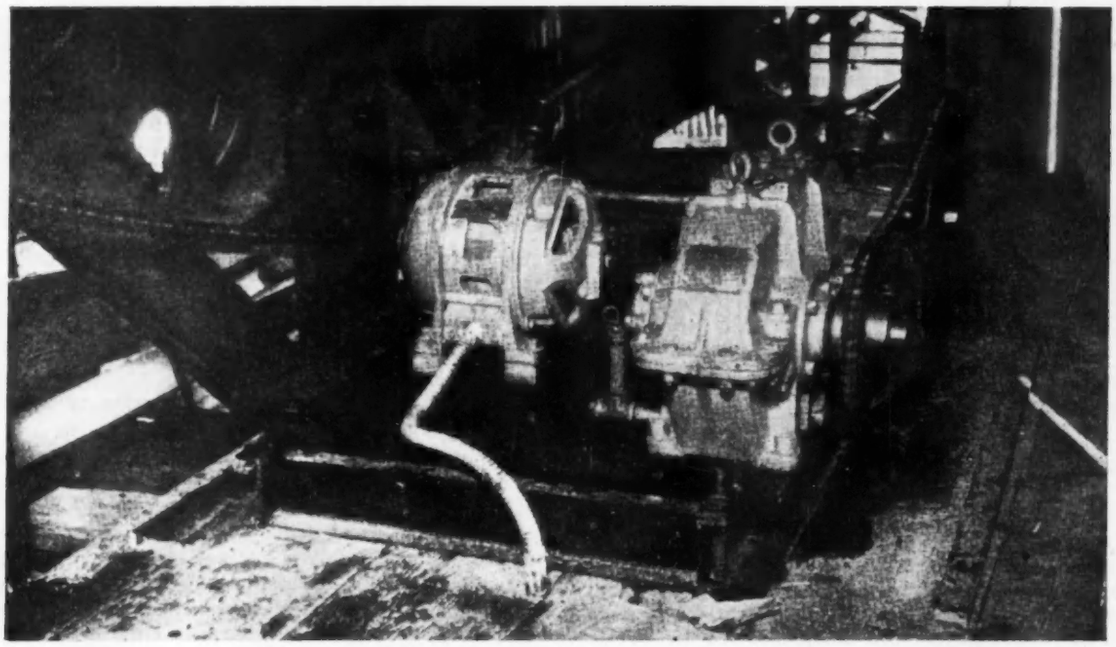


FIGURE 4

polish-rod breaks. As the use of the straight-line sling support was increased, polish-rod failures were reduced from 19 in the year 1931 to four in 1932, and to two in 1933. An additional benefit of the elimination of side wear is just becoming apparent in another territory now under development, where the rough surface topography necessitates at least a portion of the wells lifting their production to considerable elevation above the level of the rig floor. As this area is further developed, stuffing-box leakage and re-packing under these conditions will be greatly reduced.

The remainder of what can be termed unnecessary down-time covers a wide range of minor troubles. The program decided on to reduce these troubles was to assign two men to each section as an over-haul crew. Mimeographed sheets were given to each foreman showing all the items to check, from the crown block down to the working platforms; then the derrick floor, the underpinning, and all the individual parts of the standard end. The foremen were required to check off each item as it was inspected and repaired. Worn motor-control cords were replaced, and porcelain insulators were installed as guides. The practice of lubricating wrist pins and jack-post bearings with crude oil was discontinued, and low-priced grease cups were installed. The over-haul crew was able to cover one rig every three days; and this program, plus a thorough revamping of all the necessary safety guards, occupied some eight months of 1932. Although the addition of two men to the operating crews of each section increased the regular crew 50 percent, the economies resulting from their work, plus the gradual institution of slow-motion pumping, increased the net lifting cost for the year 1932 only 0.29 percent over the previous year.

FIGURE 6

As a result of this campaign against unnecessary down-time, costs for the years 1932 and 1933 showed considerable improvement compared with 1931. The 5.52 percent down-time in 1931 was cut to 2.86 percent the next year. This was a reduction in total lost time of 48.2 percent. In 1933 the average down-time was 2.31 percent, or a reduction of 58.2 percent over 1931.

A decrease in down-time is difficult to evaluate in dollars, because a number of wells were shut down to meet the state curtailment program. However, had the wells producing been the only ones on the lease, and had there been no curtailment, this decrease in lost time would have meant the lifting of 29,000 barrels of additional oil in 1932 and 32,600 additional barrels in 1933. When and if curtailment is raised, the efforts to minimize the amount of lost time per year will pay large returns on expenditures involved.

Slow-Motion Records

Slow-motion pumping was first tried in the summer of 1930. After proving out the theory in a practical manner, using a homemade assembly with a five horsepower motor,

ENGINEERING DATA—PUMPING WELLS

Date	H.P. Strokes Per Minute	H.P. Total	H.P. Per Barrel	Power Cost Per Month	Power Factor	Power Peak	Model	Prime Mover Horsepower	Prime Mover Speed Reducer	Pulley and Belt or Sprocket and Chain	Starting Switch	Pump Size	Pump Make	Pump Depth	Crank Hole	Lost Stroke	Net Volumemetric Displacement	Production Oil	Production Water	Production Total	Theoretical Lift Horsepower	Operating Efficiency	Over-all Efficiency
2-12-32	21	11.8	0.281	59.00	0.52	0	OMT	20-50	Belt and Crank-shaft	12" x 52"-19" x 120"		2½	Tube	2,734	3old	11.2"	216b-d	37	5	42	0.76	19.4	6.4
4-19-32	4	1.9	0.0475	9.50	0.63	4.3	CJ9MR	3	23.1 : 1 Pac	1"P-25T x 75T 10-30-10T x 42T	West	2½	S	2,640	3old	12.4"	65b-d	36	4	40	0.70	61.6	36.8

FIGURE 2

that economies in lifting costs with no loss of production could be expected from reductions in pumping speeds, it was decided to equip some two to four wells a month with the most economical installations for driving the standard ends at speeds to suit each well. A net pump volumetric efficiency of 50 percent was decided upon as a conservative basis to calculate the required strokes per minute for any given size pump and crank-hole setting. Killowatt input tests showed at the outset that peaks on a recording watt-meter chart could be reduced from 1 to 14 percent by operating in reverse rotation. No insurmountable belt troubles arose from this method of operation, although the top side of the pumping belt became the tight side, and the lower one the loose side—which is the opposite of good belt-drive practice. In order to assemble all the necessary data to select the most desirable wells for slow-motion pumping, a mimeographed form, shown as Figure 2, was devised. Over-all efficiencies between 25 and 30 percent were considered representative of the best obtainable, and only those wells showing one-half or less of these figures were considered as being able to show a quick enough pay-out on power saving alone to justify the installation of a small motor and V-belt drive. In computing these efficiencies, the power input to the motor was used against foot-pounds of work done in lifting the fluid—always assuming no tubing friction, and assuming the fluid level of the oil to be at the pump during pumping operations. Motors of three horsepower and five horsepower, V-belted to the large motors, were installed at an average cost of $200 each, and showed a power saving pay-out averaging 10 months. When all available idle pumping belts had been used up as replacements, the type of slow-motion equipment was changed to one directly connected through sprockets and chains to the bandwheel shaft. Figure 3, 4, 5, 6 and 7 are views of some of the representative installations that are being used. Each installation liberated a belt for immediate use, and by thus

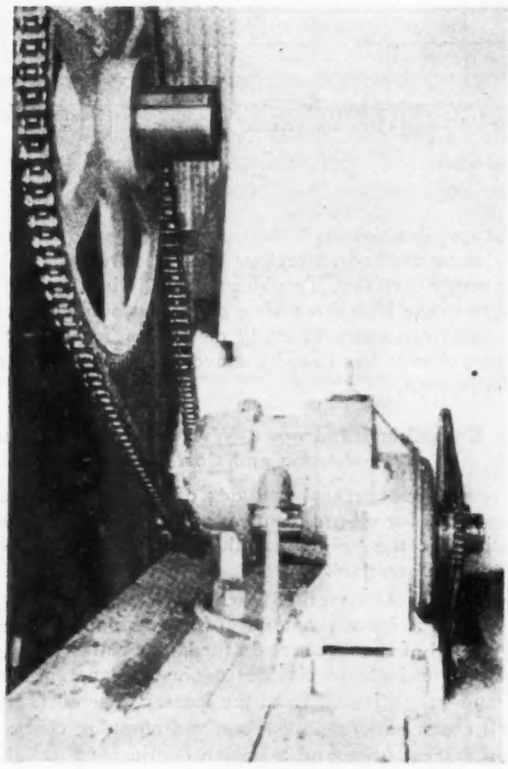


FIGURE 5

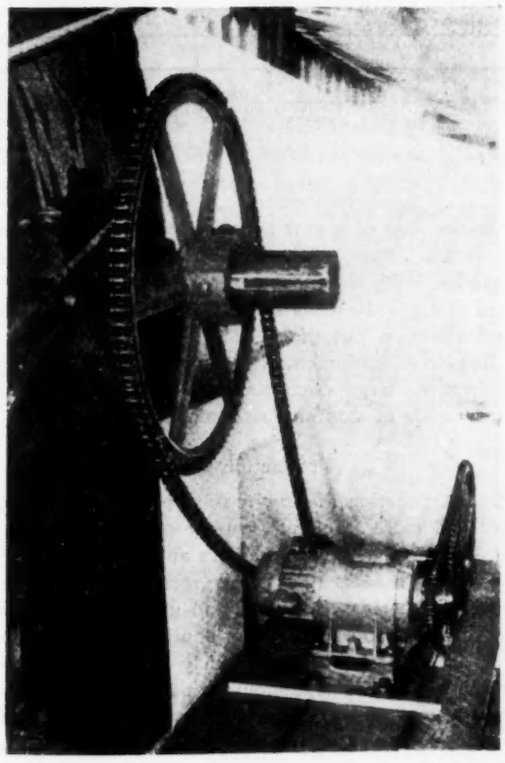


FIGURE 7

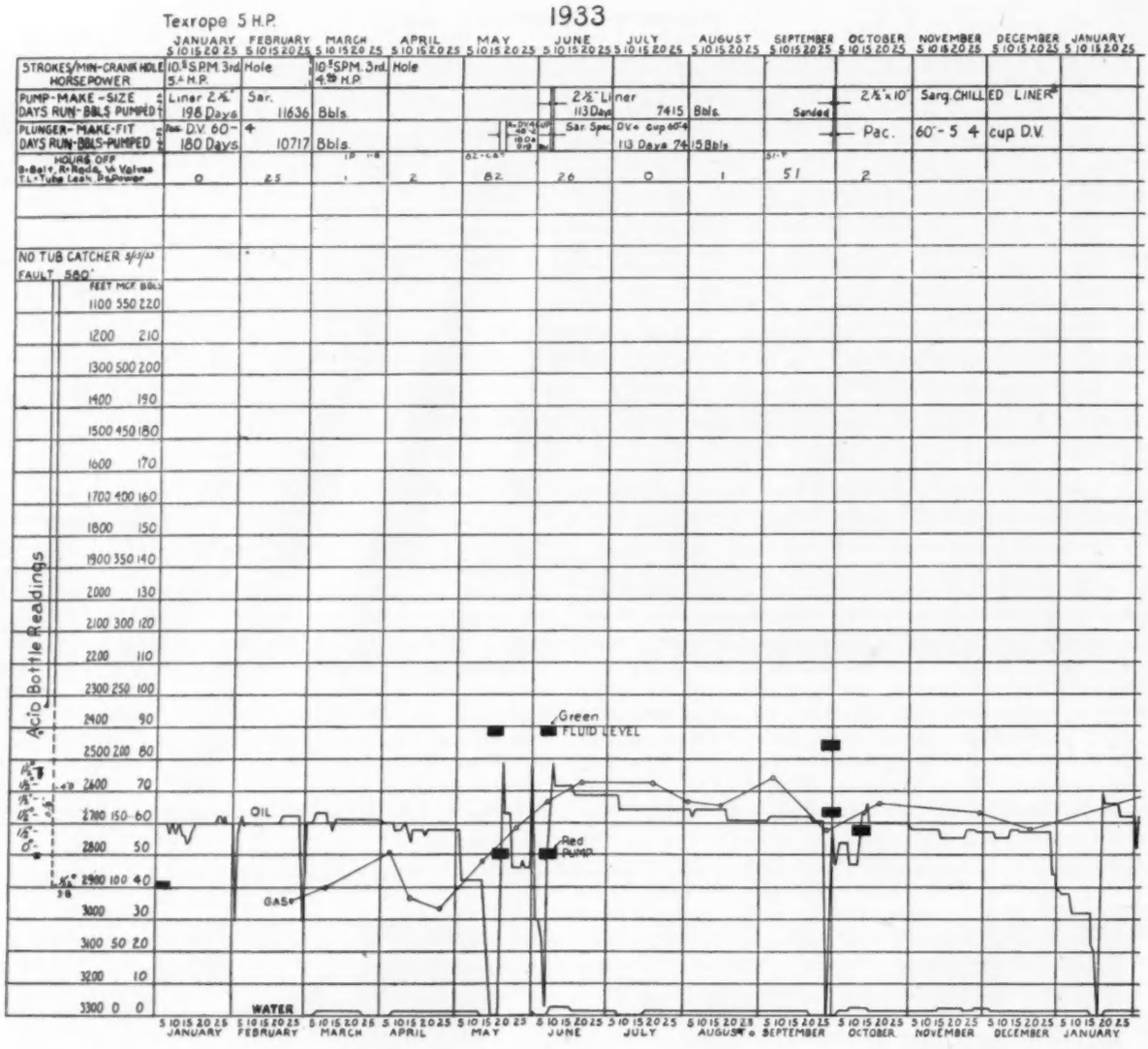


FIGURE 8

saving the cost of a new belt it justified its own increased investment. Power saving pay-outs on this type averaged 11 months. With slow-motion equipment, two small properties of eight to 10 wells each are operating with only two hours' attention out of the 24. Their previous gas-engine and belt-drive equipment was never considered sufficiently safe (due to large down-time losses and fire hazard) to operate without continuous attendance.

Production Graphs

The introduction of slow-motion pumping led to a much closer and more frequent scrutiny of each well's performance. The time wasted and errors and omissions discovered in searching a mass of monthly records to get a complete picture of a well's oil, water, and gas production, its fluid level, casing program, tubing depth, and the changes in the variables which had previously been tried, made it obvious that all these data should appear on one sheet. Therefore, these data were plotted on a graph, and Figure 8 shows the general features of the form in use. Each graph covers two years by days, and measures 18½ x 33 inches.

Inasmuch as the use of the form makes available immediately all of the important information on any specific well, proper decisions may be made with regard to changes in producing methods. Previous mistakes are apparent and, consequently, avoided. Troublesome wells become conspicuous due to the high down-time and short pump life, and in a few cases concentrated study of the records before each operating change has raised the average pump life as much as 1000 percent.

Group Method and Individual Well Method of Recording Production and Cost Data

There are two general methods of recording production and cost data for oil-producing properties. One method will be designated the "group" method and the other the "individual well" method.

Under the group method each lease or group of wells from which a known amount of oil shipped is handled as a unit. All of the direct costs for labor, material, supplies, power and/or fuel are charged against the net production of oil and gas delivered from the lease. These costs include all well costs, handling, cleaning, and shipping costs. With a given market price and a known overhead, a definite delivery cost per barrel can be set up for such a lease as a limiting value beyond which no profit can be made. When the actual delivery cost equals this limiting value, the oper-

TABLE 1

Comparison of Estimated Production and Costs with Gaged Production and Costs on Individual Wells

Well No.	Estimated Production (Barrels)	Individual Direct Well Cost	Cost per Barrel of Estimated Production	Total Gaged Production (Barrels)	Cost per Barrel of Gaged Production
A	2,444	$846.96	$0.347	2,011	$0.421
B	2,182	475.06	0.218	2,262	0.210
C	2,016	843.18	0.418	754	1.118
D	2,615	1,477.85	0.565	5,028	0.294
E	3,310	686.22	0.207	4,022	0.171
F	3,482	545.67	0.157	3,771	0.145
G	3,040	1,443.92	0.457	1,257	1.149
H	14,871	944.05	0.063	22,877	0.041
I	11,383	1,275.89	0.112	4,274	0.298
J	2,662	710.26	0.267	1,257	0.565
	48,005	$9,246.06	Average $0.193	47,513	Average $0.195

ator is faced with the necessity of either abandoning the entire lease or changing to the individual well method of cost accounting.

In order to install the individual well method of accounting, the first step is to secure individual gages of the gross and net production on each well. The accounting system must be changed so that every time the card and material slip carries a definite charge to the particular facility involved. Power and fuel charges should be measured or closely estimated to each facility. Charges for miscellaneous supplies, labor and supervision which cannot be directly charged to the facilities involved are carried as indirect charges or field overhead. In studying the problem of rehabilitating an old lease, it is frequently found that the charges for a period of several months may be segregated substantially as described; and these data, together with the individual well gages, enable the operator to plan intelligently a rehabilitation program.

With such a method installed, the operator has a fixed charge for field overhead; either a fixed charge or a unit cost per barrel for handling, cleaning and shipping the oil—and the balance of the cost is to individual wells, and is carried as individual well costs. On the average lease it will be found that these individual direct well costs comprise 50 to 80 percent of the total lease cost. With the individual well production known, it is a simple matter to determine which wells are operating at a profit and which wells are "marginal" or definitely unprofitable.

Many modifications of these two general methods are in use. Many instances are found where the individual direct well costs are accurately determined, but the production from each well is estimated either with or without intermittent gages being taken on the wells. Sometimes the total of such estimated gages is at wide variance with the actual amount of oil shipped from the lease, but usually the estimated total will check the actual shipments with remarkable accuracy. This is accounted for by the fact that at the end of each month there is an indeterminate amount of dirty oil in transit and in sumps or tanks which has to be estimated; and any great variation, which has developed during the month, between the estimated production and the net oil actually placed in tanks can be absorbed in the estimate of this oil in transit. For the following month the estimated gages are altered sufficiently to avoid any glaring discrepancy developing in the estimated oil in transit. This practice is particularly common in the older stripper fields; and due to the fact that the total estimated gages check very closely the total oil shipped month after month, it has resulted in an unwarranted reliance being placed upon such estimated individual well gages.

Table 1 is an illustration of this condition on a lease with 10 wells for a period of nine months, during which time each well metered as a check against the estimated gages.

It will be noted that the total estimated oil produced from all wells for the nine months' period shows a differ-

TABLE 2

Comparison of Estimated Production with Gaged Production on Profit and Loss Statement on Individual Wells

	Profit and Loss on ESTIMATED Production					Profit and Loss on GAGED Production						
Well No.	Total Production (Barrels)	Value at $0.55 per Barrel	Direct Costs	Profit	Loss	Total Production (Barrels)	Value at $0.55 per Barrel	Direct Costs	Profit	Loss	Difference	Difference (Per Cent)
A	2,444	$1,344.20	$846.96	$497.24	....	2,011	$1,106.05	$846.96	$259.09	.....	$238.15	92
B	2,182	1,200.10	475.06	725.04	....	2,262	1,244.10	475.06	769.04	.....	44.00	6
C	2,016	1,108.80	843.18	265.62	....	754	414.70	843.18	.....	$428.48	Corrected production shows loss instead of profit.	
D	2,615	1,438.25	1,477.85	.....	$39.60	5,028	2,765.40	1,477.85	1,287.55	.....	Corrected production shows profit instead of loss.	
E	3,310	1,820.50	686.22	1,134.28	....	4,022	2,212.10	686.22	1,525.88	.....	$391.60	26
F	3,482	1,915.10	545.67	1,369.43	....	3,771	2,074.05	545.67	1,528.38	.....	158.95	10
G	3,040	1,672.00	1,443.92	228.08	....	1,257	691.35	1,443.92	.....	752.57	Corrected production shows loss instead of profit.	
H	14,871	8,179.05	944.05	7,235.00	....	22,877	12,582.35	944.05	11,638.30	.....	$4,403.30	38
I	11,383	6,260.65	1,275.89	4,984.76	....	4,274	2,350.70	1,275.89	1,074.81	.....	3,909.95	364
J	2,662	1,464.10	710.26	753.84	....	1,257	691.35	710.26	.....	18.91	Corrected production shows loss instead of profit.	
	48,005	$26,402.75	$9,249.06	$17,193.29	$39.60	47,513	$26,132.15	$9,249.06	$18,083.05	$1,199.96		

TABLE 3

Comparative Operating Data on 59 Wells Put on Slow Motion

ITEM	With Regular Equipment	With Slow Motion	Difference in Favor of Slow Motion
Number of wells	59	59	.....
Period of comparison in years	2	2	.....
Production—average barrels per day—gross	13.07	12.66	.....
Production—average barrels per day—net	10.22	10.01	.....
Well-crew operations (sub-surface work):			
Total man hours for clean-out jobs	48,006	.....	48,006
Total man hours for tubing jobs	22,992	14,245	8,747
Total man hours for rod jobs	31,570	9,160	22,410
Direct cost per barrel of net oil	$0.3324	$0.1148	$0.2176
Data on the economic recovery, based upon oil value of 50 cents per barrel at the well:			
Economic life in years	3	10	7
Economic recovery in barrels	9,504	20,310	10,806
Present worth of net profits on economic recovery per well at 6 per cent discount factor and oil value of 50 cents per barrel at the well	$943.00	$4,911.00	$3,968.00
Total cost per well for slow-motion installation, including power distribution and individual well-gaging equipment	.....	.....	$680.00
Net increased value per well due to slow motion	.....	.....	$3,288.00

ence of only about one percent when compared with the total gaged production. However, the distribution of this oil to the individual wells shows wide variations between the estimated and the gaged production.

Table 2 shows the data used in Table 1 applied to the Profit and Loss Statement on the same wells.

On the basis of estimated production it will be noted that well "D" showed a loss, while on the basis of gaged production this well showed a substantial profit; and that three other wells, "C," "G" and "J" showed a loss. If well "D" had been shut in on the basis of estimated production, the operator would have eliminated a profit of $1,287.55 from this well, and would have continued to sustain losses amounting to $1,199.96 on the three unprofitable wells. This indicates a net value of $2,487.51 for individual well gaging from this source alone on a group of 10 stripper wells for a period of nine months, or $27.64 per well per month. As accurate metering equipment can be installed on these small wells for $100 or less, the investment would be returned in three or four months from this source alone, without regard to economies in well operations which can be secured when the operator knows the exact production of oil and water from day to day.

Few attempts to reduce production costs on small wells in the San Joaquin Valley, California, have been made without at least comparing slow-motion pumping to the production method in use. Table 3 shows the operating data of regular equipment on 59 wells as compared with that of slow-motion equipment on the same wells.

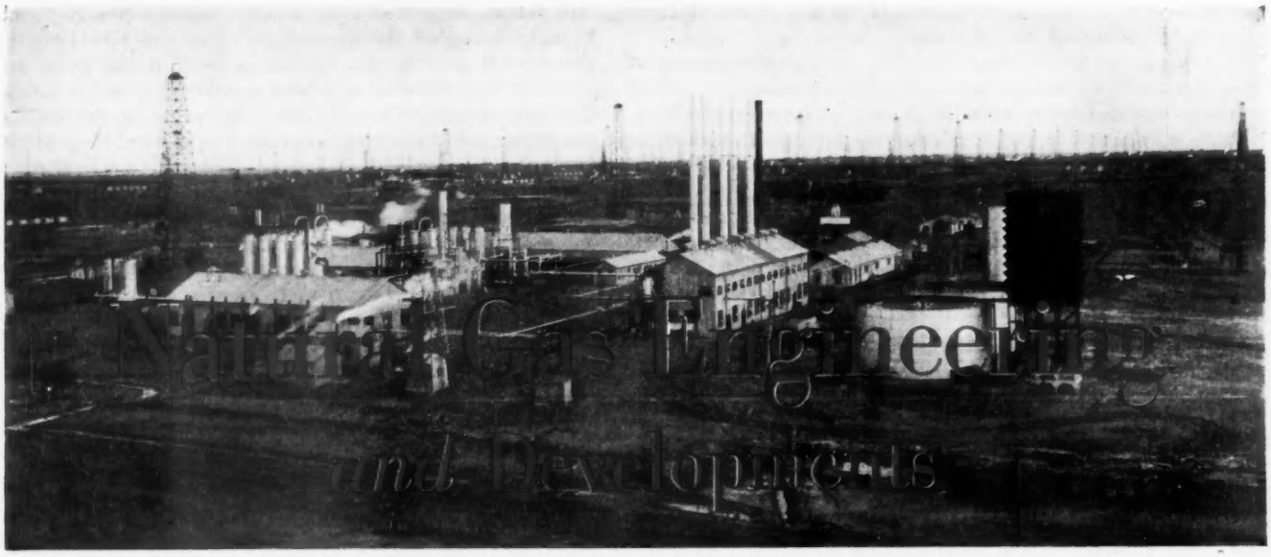
Although the comparison shown in this table did not lead to the adoption of slow-motion pumping, it did show the necessity of keeping good records in order to prove that the results obtained from any such program were in the direction desired. In one scattered group of wells there were 43 operating at 20 to 24 strokes per minute with single-cylinder gas-engine drive, and 16 were operated by 10/30 horsepower double-rated oil-well motors. Costs of these wells were carefully kept for a period of two years, and at the end of this time the entire 59 wells were changed over to speeds of one to five strokes per minute. Approximately half the wells were equipped with one horsepower motors driving the bandwheel shafts through a reduction gear and a double-chain reduction. The remaining wells required two, three and five horsepower motors. The most significant fact, besides the tremendous reduction in direct lifting cost, is the realization that a projection of the graph of each well's past daily oil production showed that its current production at the end of the two years of slow-motion pumping could be expected to average 8.9 barrels per well per day. Instead of this anticipated well average, the actual production obtained was 10.01 barrels per day.

Conclusion

The systematic study of the production and equipment records discussed in this paper is definitely reflected in lowered lifting costs. The lifting costs in 1933 were approximately 14 percent less than those in 1932, and there is no question but that the time and expense required for the compilation of these records has been amply repaid by the savings.

Individual well cost accounting and actual well gages or meter readings on individual small wells have furnished a record or basis for more correctly arriving at the true profitability of each well's operation than was the case when records were kept of each well's production based on prorating the estimated total production of a group of wells.

Although the operating data, as shown in Table 3, for regular equipment on 59 wells as compared with that for slow-motion pumping equipment for the same wells were not the original reason for installing the slow-motion pumping facilities in the area under discussion in this paper, nevertheless, the profitability was so markedly in favor of slow-motion pumping that the maintenance of this type of record is fully warranted because it furnishes a sound basis for justifying the installation of additional slow-motion pumping equipment.



Gauging Gas Well *Capacities* *Accurately* Without Waste of Gas

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THE production of natural gas for commercial use has been carried on for many years. It has been in the past few years only, however, that the activities of the gas industry have been broadened until gas service is available to localities far removed from the source of supply. In those days when the sale of gas was a matter of local concern, the amount of available gas and reserve supply of gas were of comparatively minor importance. At present one of the more important problems with which a gas company has to contend is the amount of gas it has accessible with which to meet the demands of its consumers. It is important, then, that all data which deal with this phase of a company's activities be accurate and dependable. If a company meets a situation upon the assumption that it has a sufficient amount of gas with which to meet it, and finds that through misinformation dealing with its well capacities, it falls short in its service requirements, it has failed signally in its duty to those who have made its existence possible.

Coincident with the ever increasing distribution activities of the gas industry came a demand for improved methods in all phases of its operation. Not among the least of these were the methods by which the amount of available gas was determined. A discussion of these methods, their history, advantages, and faults is the purpose of this paper.

Open flow is the term generally applied designating the ability of a gas well to produce gas against atmospheric pressure. Until fairly recently the method of determining the open flow of a well was by means of a pitot tube.

In 1886, the first recognized application of the pitot tube to measurement of the flow of gas was made by S. W. Robinson of Ohio State University. At that time, he presented experimental data in various papers, and set forth theories concerning the use of the pitot tube as applied to gasses.

The results of his investigations and experiments apparently remained unchallenged until T. R. Weymouth, appearing before the American Society of Mechanical Engineers in 1912, substituted constants in the adiabatic formula which made the use of the pitot tube more applicable to natural gas.

From the work of these two men tables were set up by which to determine open flow capacities of gas wells. No further development concerning open flow by pitot tube measurement was made until fairly recently, when criticisms came from various sources. Among the more outstanding of these was the one by Walter Reid, a gas consulting engineer of Dallas, Texas. He conducted a series of experiments on gas wells in the Gulf Coast region. The original tables used for arriving at the open flow of a well were based upon the assumption that there was no static pressure of the gas jet upon leaving the pipe. Reid's experiments showed this assumption to be false and the tables computed upon this basis to be very much in error, particularly so for all flows above the critical velocity of gas. The failure of these tables to properly set forth the potential of a well created a handicap in the development of improved methods of open flow measurement, because the capacities of wells according to the old tables were being used to check all work done. After the corrective work done by Reid, this difficulty was removed. We may say, then, that the experiments conducted by him represented

the most important contribution to measurement of open flow by means of the pitot tube.

During the years that the pitot tube determination of well capacities was in universal use, especially the latter ones, dissatisfaction with it gradually arose and efforts were made to provide a suitable method which would be accurate and yet eliminate the objectionable features of the old method. One of the results of these efforts was the Parsons plan. This method was worked out for use in the Chickasha gas field by C. P. Parsons of Magnolia Petroleum Company, and was based upon data from the history of wells in that field. The Corporation Commission of Oklahoma has recognized the Parsons plan to the extent that potentials for the Chickasha field are now based upon the decline of volumes according to curves established by this method, and open flow by pitot tube measurement has been eliminated. Another method growing out of the effort to eliminate opening of gas wells to the atmosphere was the 90 percent rock pressure method. This was originated by Indian Territory Illuminating Oil Company and is used by it, with the approval of the Indian Agency, in Osage County, Oklahoma.

Back Pressure Method

The most complete and satisfactory of methods worked out, however, is the so-called Back Pressure Method of Determining Well Capacities. This method was the result of a recognition by the United States Bureau of Mines as to the desirability of determining well capacities without discharging the gas into the atmosphere, and it is more widely known and used than either of the ones mentioned before.

The use of the pitot tube in measuring well capacities was recognized by the industry, not because of any particular merit, but because it was the only method known to be used. The mechanics of this method are simple, and consist of inserting a small tube, one end of which is bent to a right angle, into the flowing gas, just inside the pipe and between one third and one fourth the diameter of the pipe from its outer edge. This tube, in turn, is attached to a U-tube containing either water or mercury, or to a pressure gauge. The pressure of the flowing gas determines which of the three shall be used. By the use of tables compiled from formulas dealing with flowing gas, the capacity of the well is determined. As was suggested above, this method was universally used, not because the industry failed to recognize its demerits, but because no other method was available.

The matter of conservation of natural gas is an important factor which arose to condemn the opening of a producing string and discharging gas into the atmosphere. The original requirements of the Oklahoma Corporation Commission were that open flow tests should be made of each well every 30 days. This rule later was amended so that the open flow requirements of the commission should be met quarterly. The rules of this same regulatory body prohibit the rate of flow from any well exceeding 25 percent of its open flow. This rule was intended to prevent damage to the well from over production. When these rules were made, however, the method of taking open flow was such that some of the advantage gained by prohibiting over production was offset by the fact that the testing required to establish the maximum capacity of a well necessitated opening the well wide to the atmosphere, and at the time mentioned above this occurred every month.

From the use of this method it can be seen that, not only was irreparable damage being done to the formation, but that the amount of gas lost for utilization was astounding. It has been estimated that the amount of gas expelled into the air in some fields through taking open flows has actually exceeded the amount put into the pipe lines for commercial use. In the Chickasha field, it has been estimated by Mr. Parsons, who was mentioned above in connection with the Parsons plan, that the value, at the well, of gas blown into the air in this field would be at least $10,000 for each time the field was tested. Under the original ruling of the corporation commission, this would be every month, so that during a year's time the gas lost would have a value of over $120,000. Under the amended ruling the gas wasted yearly would have a value of over $40,000.

The opening of a well wide to the atmosphere has a very harmful and destructive effect upon the producing formation. Excessive differentials created through the formation have a very decided tendency to cause a caving of the formation, especially at the face of the sand. It also causes water encroachment to be more rapid, which results in a shorter lived field. Damage to fittings and controls of a well by opening it wide often results, and this constitutes a serious menace to the safety of those making the test.

In addition to these disadvantages, the well capacity arrived at is not a representative basis from which to determine the most efficient producing condition of a well. The volume resulting from a use of the open flow method is entirely independent of all other factors and no other consideration enters into its use, whereas there is a distinct relationship between pressure and flowing gas factors which have a decided bearing upon the producing efficiency of a well.

The Parsons plan was proposed for determining well capacities in a particular field. The idea back of this plan was to eliminate the use of the pitot tube. Through a study of the field history and a determination of the relationship between rock pressure decline and open flow decline, a curve was established for the entire field whereby open flow could be figured by corresponding changes in rock pressure. The use of this method, however, necessitates having available a field history, and since there is such a variation in producing conditions in different fields the flow decline curves set up for the Chickasha field would not apply, and other methods of testing would have to be used to established the needed relationship.

In the 90 percent rock pressure method, the shut in pressure of the well is recorded, after which the well is allowed to produce at various rates of delivery. Back pressure at each rate is noted. Using regular co-ordinate paper, the different rates of flow are plotted against their corresponding absolute back pressures and a curve established. The maximum allowable rate of production is determined from the flow curve as that which is indicated at 90 percent of the absolute shut in pressure of the well. In the wells of that particular section in which it is used, this volume is approximately 20 percent of the open flow capacity of the well. This arbitrary method of determining the point at which maximum deliveries are allowed and the variation as to percent of open flow capacities which it represents restricts its use, however, and precludes any wide-spread adoption.

This brings us to the last mentioned and most outstanding method yet devised for determining well capacities. The United States Bureau of Mines back pressure method of determining well capacities is one whose use is not restricted to any one locality. It is universally applicable and possesses none of the objectionable features of the pitot tube method. Its advantages are many. From a commercial standpoint, it is more accurate because the maximum possible delivery of the well is determined by observation of the actual working condition of the well at various rates of flow. This is especially valuable to the gas industry, in-

asmuch as the capacity of a well, from a commercial standpoint, is dependent upon its ability to deliver gas under actual operating conditions.

The life of a well tested by this method is longer than it might be otherwise. The original condition of the producing formation is maintained, no likelihood of crater or fissure development or caving is present, and the encroachment of water into the formation and bore of the well is retarded, since there is no necessity for the creation of an excessive pressure differential throughout the formation.

No gas is wasted because the well can be allowed to deliver into the pipe lines. Through a use of this method any changes which may occur in the condition of a well which will affect its producing ability are made known. By a study of the behavior of the well producing at various rates of flow and back pressures, the most efficient working capacity of the well can be determined. Application of this knowledge will result in a longer lived well.

Equipment for making test consists of either a dead weight tester, spring test gauge, or a pressure recorder, and some gas measuring instrument. The dead weight tester is preferred for use as a pressure determinant as it is very sensitive to pressure measurement and pressure can be read accurately, to within 0.1 pound per square inch. A carefully calibrated spring test gauge is sufficiently accurate, however, if care is taken that it remains in calibration throughout the tests.

For purposes of conservation of all gas, the measurement must be made through an orifice meter into pipe lines. If, however, it is not possible to dispose of the gas into commercial outlets, either a low pressure funnel meter or a critical flow meter may be used. The funnel meter is better adapted to use on small wells since the maximum rate of flow that it can measure is 8,000,000 cubic feet per day. The critical flow meter, however, is practical under any pressure condition over 15 pounds gauge and will measure both low and high rates of flow.

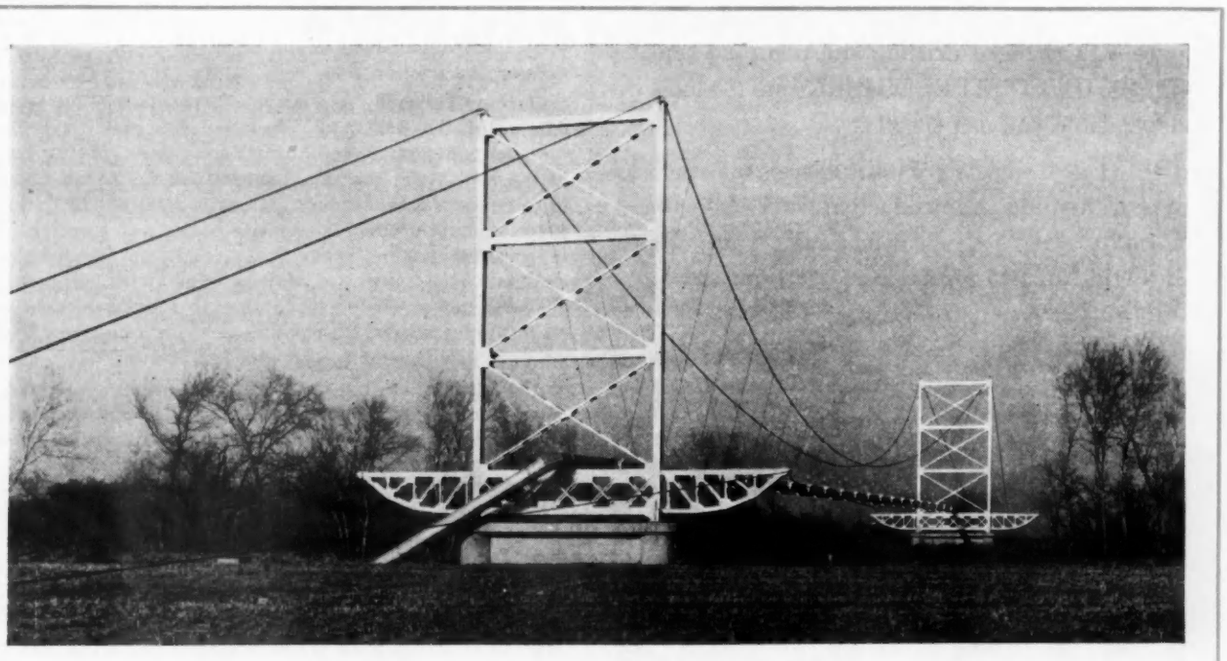
Data concerning a well which must be known are its depth and the size of casing or tubing through which the gas flows. The specific gravity of the gas also must be known. The specific gravity should be determined by a gravity balance.

The mechanics of this method are not so simple as those which govern the use of the pitot tube. The shut in pressure of the well is first obtained. The well is then turned into the lines at the maximum rate of flow used during the test. It has been found that it is not necsesary to lower the working pressure on the well to less than 75 percent of its shut in pressure at the maximum rate of flow. Readings for the highest rate of flow should be taken first. By doing this, any liquid in the bore of the well or in the producing string will be lifted out of the well and make possible a better test. Following this procedure also allows the lower readings to be divided so as to allow an equable distribution of back pressures on the well.

Measurement of the flow of gas should be made at four or five different back pressures. At each reading be sure that the flow of gas is constant and that the back pressure has been stabilized. Since a slightly different test results if only one well in an area is allowed to produce at a time, it is better, from a commercial standpoint at least, to cause several wells to be feeding into the lines while tests are being made. When measuring the gas through an orifice meter, it is sometimes necessary to change the size of the orifice plate used during the test in order to accurately measure the different flows of gas at the desired back pressures. When any question regarding the advisability of this arises, it is always well to make the necessary changes.

This method requires the use of pressure conditions at the face of the sand and it is necessary to convert observed well head pressures to formation pressure. This can be done either from formulas or by the use of charts or tables.

Pressure measurements should be made directly from the producing string when the well is not tubed. When the well is producing through tubing packed at the well head, the mathematical process is simplified by a pressure con-



Pipe line bridge on Northern Natural Gas Company's 26-inch line from Texas Panhandle to Omaha, Nebraska, near Ellinwood, Kansas, across the Arkansas River

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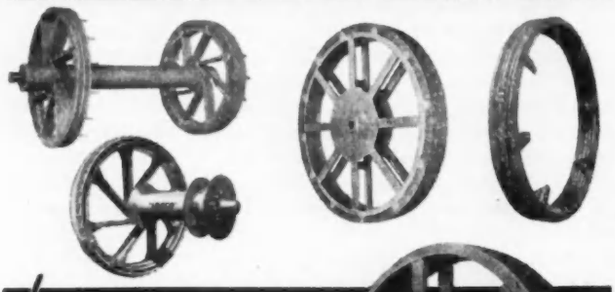

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nection made from the non-producing string of pipe. When this can be done there is no pressure drop due to friction on the producing string to be considered and the absolute pressure at the face of the sand is equal to the absolute pressure at the well head plus the pressure due to weight of the column of gas. If the well is tubed and producing through the outer string of pipe these same conditions hold forth if the pressure measurement is made from the tubing. If it is necessary to obtain pressure measurements directly from the producing string, absolute pressure at the face of the sand is equal to the weight of the flowing column of gas plus the pressure drop due to friction added to the absolute well head pressure.

The absolute shut in pressure at the well head plus the pressure due to the weight of the column of gas equals the absolute shut in formation pressure, P_f. After the absolute back pressure at the face of the sand, P_s, for each rate of flow has been determined, the next step is to calculate the difference of the square of P_f and P_s ($P^2_f - P^2_s$) existing at each rate of flow. Next in the procedure is the plotting on logarithmic co-cordinate paper of the difference in squares of P_f and P_s ($P^2_f - P^2_s$) against its corresponding rate of flow. The points thus established should bear a straight line relation to each other.

By extending the curve to the point where the difference between $P^2_f - P^2_s$ when P_s corresponds to the values as set forth below, the maximum capacity of the well is determined. This maximum capacity of a well may be computed in either of two ways. First, where the absolute back pressure at the face of the sand, P_s, is assumed to be equal to atmospheric pressure, and $P^2_f - P^2_s$ is figured on this assumption, what is known as the "absolute open flow" of the well is determined. Second, where the absolute back pressure at the well head, P_a, is assumed to be equal to atmospheric pressure, then P_s is equal to this pressure plus the pressure drop due to friction plus the pressure due to the weight of the column of gas, and the "open flow" is determined from a computing of this equation.

The first method is used to offer a comparable basis for all wells, while the second sets forth the maximum capacity for a well to deliver gas, this capacity being dependent upon the friction drop in the pipe, the smaller the pipe the greater the friction loss.

Once established, this curve represents the fundamental relation of the well from which the data was obtained, and remains constant, under normal conditions, during the life of the well. After the establishment of this relation, assuming unchanged sand conditions, it is possible to determine the maximum producing capacity of the well through a shut in pressure decline, or by the plotting on logarithmic co-ordinate paper any rate of flow against its corresponding $P^2_f - P^2_s$ and extension, according to the established curve to the point where P^2_s equals the value represented in the original calculation.

Any change in the slope of the curve representing this fundamental relation shows a changed formation condition, the cause of which should be studied carefully in order that maximum efficiency of production be maintained. Because of this possibility of changed formation condition, occasional back pressure tests should be made to indicate the existing condition of the well.

It cannot be said that the future will not see the development of a well testing method superior to any in use at present. Until such a development is made, however, the Bureau of Mines back pressure method of determining well capacities represents the most advanced and practical method perfected, and its use over any other known method is to be recommended.

Soviet Oil Enters New Intensive Phase

WILLIAM SCHACK

SOVIET Russian oil industry is entering on a new phase of intensive development which other countries will watch with great interest. Whether they will also watch with concern, with trepidation, depends on the extent to which the large increase in production the Soviet plans will be absorbed by domestic needs instead of adding still more to the world market supply. Although no estimates on the Soviet's own consumption for 1934 are available, indications are that there will be a large increase in that consumption, which may, therefore, keep the Soviets from being a more formidable factor on the world market this year than they were last. In view of the importance of oil products in the list of Soviet exports, however, this view may not be assumed too sanguinely.

In looking back at 1933, the striking fact emerges that virtually the entire output of Soviet Russia for that year was drawn from wells drilled under the Soviet regime, less than 0.5 percent having been taken from pre-existing sources. Indeed, 30 percent of the production emanated from districts that were not known to be oil bearing before. In view of this fact, the accelerated activity of the past year takes on new significance. Whereas there were 168 geological expeditions exploring new sources and studying already uncovered oil regions in 1931, last year there were 330 such expeditions. They operated in the semi-desert regions of Middle Asia, in Turkestan, around the mouth of the Lena River, near Kamchatka and in the extreme north of Siberia. Drilling operations reached 2,500,000 feet, an increase of 32 percent over the previous year, and 5,800,000 feet are scheduled for 1934. Of the many new sources opened up, the gushers of Lok-Batan, with an output of 4,800,000 barrels, and those of Kala, with an output of 8,200,000 barrels for 1933, were the most striking. Refining practice was improved, increased productivity of machines and men was obtained, new pipe lines were laid down, more equipment produced at home and more researches were inaugurated. That the capitalization of the industry has increased correspondingly is evident from the figures in Table 1, which indicates an almost 100 percent rise between 1928 and 1932.

Table 2 records that for the current year a record output of 220,000,000 barrels is expected. What are the domestic outlets for this supply, which would represent a 36 percent increase over the previous year? That a very large part of it is intended for home use is

TABLE 1
Capitalization of Soviet Oil Industry (in millions of rubles)

	1928-9	1930	1931	1932
Drilling	80.9	99.4	165.8	187.5
Production	17.9	20.0	23.6	23.3
Refining	36.3	82.5	65.0	84.5
Pipe Lines (main)	27.8	17.4	27.0	24.2
Other Branches	71.9	142.3	135.6	133.5
Total	234.8	361.6	417.0	453.0

TABLE 2
Soviet Oil Production (in barrels)

1913	62,834,356
1920	25,429,000
1926	62,000,000
1931	161,900,000
1932	155,250,000
1933	150,198,316
1934 (est.)	220,000,000

TABLE 3

Soviet and World Oil Exports (in thousands of metric tons)

	1913	1929	1930	1931
World Exports	11.2	76.1	79.5	72.0
Soviet Exports	0.9	3.8	4.8	5.3
Percent Soviet	8.0	5.0	6.0	7.4

TABLE 4

Russian Consumption (in thousands of tons)

	1928	1929	1930	1931	1932
Total Oil	6,960	8,452	10,461	12,524	14,443
Gasoline, Naphtha	106	147	265	647	895
Kerosene	1,264	1,676	2,190	2,608	3,026
Lubricating	169	225	324	426	541

TABLE 5

Soviet Exports (in thousands of tons)

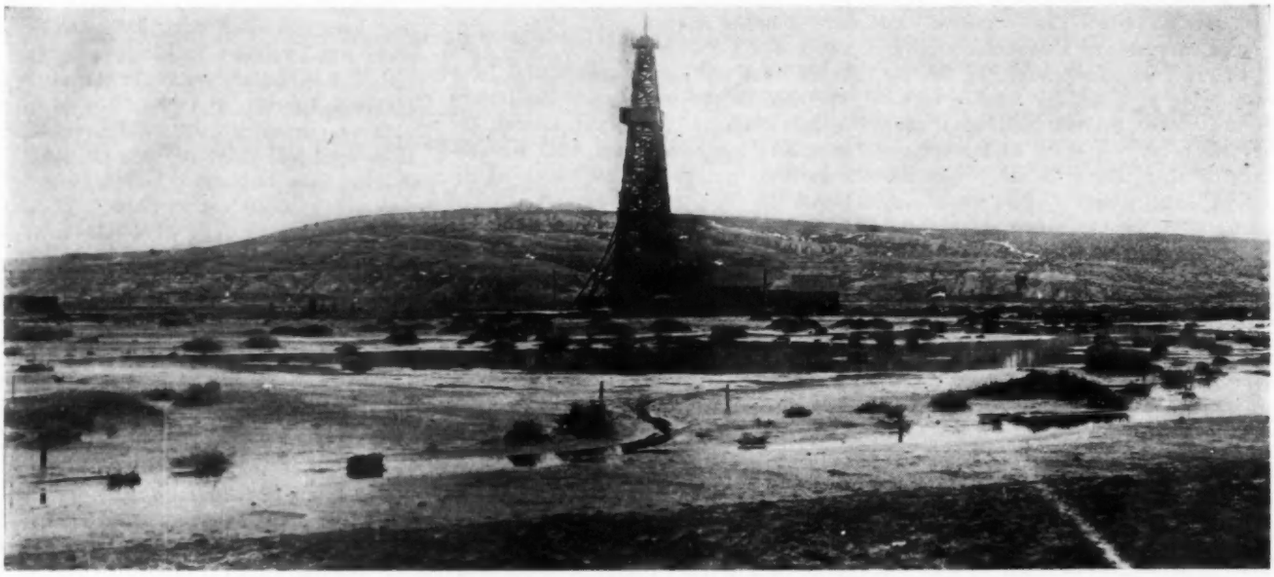
	1928	1929	1930	1931	1932	1933
Total Oil	3,009	3,835	4,803	5,280	6,106	4,894
Gasoline, Naphtha	826	1,100	1,470	1,783	1,972	1,260
Kerosene	743	782	777	729	828	570
Lubricating	250	261	272	261	249	
Fuel	1,190	1,692	2,282	2,501	2,928	

evident from the fact that Soviet authorities are going to exploit most intensively those fields nearest industrial centers. Furthermore, the 260-mile pipe line that was laid in 1932-3 from Armavir to Trudovaia serves an agricultural area, and the new 245-mile line projected for this year between Grozny and Armavir is likewise intended for the transport of tractor fuel. The U. S. S. R. now ranks next to the United States in the number of tractors employed on farms, and a recent issue of the Economic Review of the Soviet Union points out that they are used about three times as much as they are in this country — averaging 1200-1500 hours per year. In 1933 more than 150,000 tractors were used, averaging 15 horsepower, as against 26,000 tractors in 1929, averaging 10 horsepower. "By the end of 1933, not only had the number of tractors grown to over 200,000, but there were approximately 25,000 combines, 58,000 complicated threshers, and over 29,000 trucks and cars at work on Soviet farms." During this year agricultural machines are expected to reach 1.6 million horsepower.

But this represents only one phase of a mechanization program that will continue to make increasing demands on the country's oil supply. In the past few years the U. S. S. R. has been building up its capital goods industries feverishly, leaving the consumers' goods industries relatively neglected. Under the second Five-Year Plan, a wide variety of the latter will be set going. They include cotton and linen mills, shoe, glass and printing plants. The automobile works are counted on delivering something like 200,000 cars annually by 1937. Air lines are being extended, and roads are being improved at a rapid rate. It is significant that this last named activity alone has been responsible for raising the status of asphalt from a mere by-product to a basic product.

Table 5, which shows the consumption of oil in the Soviet Union for the past few years, is revealing. The total consumption since 1928 has risen in an arithmetic progression, and there has been a marked increase in each category. But that in the gasoline classification is especially notable, and demand for that product seems to be accelerating.

But while domestic consumption is bound to grow rapidly, since the development of both agriculture and industry is correlated with it, it cannot be forgotten that oil is one of the major exports of the U. S. S. R., heading the whole list of exports for the past three years and reaching a high of 18.6 percent of their total value in 1932. Since the Soviets are not now in a position to obtain long-term credit in many countries, they must conduct their international trade on the basis of exchange of goods, and there are many products they wish to purchase



Well No. 1 at Lok-Batan. In the back ground may be seen a mud volcano.

from abroad. To pay for them, however, they must export their own wares, together with a certain amount of gold. Hence their disposal of large stocks of wheat despite the need of their own people for it and the depressed state of the world market; hence their efforts to dispose of oil. Furthermore, it is to be noted (see Table 3) that the Tsarist Russia of 1913 was responsible for eight percent of the world exports of oil products—a proportion that the Soviets, for all their absolute increase in production, are only now approaching.

Higher Avalities

In addition to stressing quantity production, the current Soviet program also calls for more attention to qualitative factors, with an increased output of higher grade oils. In this connection, it is pertinent to note that, although Soviet exports dropped from 45,515,000 barrels in 1932, to 42,475,000 barrels last year, machine oil and spindle oil showed increases.

In considering the relative place of home consumption and exports, it is interesting to correlate Tables 4 and 5. Dividing the corresponding figures in the former by those in Table 6, one obtains the following ratios, beginning with the figures for 1928: 2.3, 2.2, 2.17, 2.37, 2.2. Thus there has been a fairly constant numerical relation between the amount of oil products taken up by the home market and that sold abroad. This figure should be especially significant in 1934, in view of the very large increase in production projected as well as the very large domestic demand that can be forseen now.

Well No. 5 at Lok-Batan, one of the largest gushers in the world. Brought in May, 1933, for 150,000 barrels daily.

Trade Agreements

With regard to trade agreements, the Soviet policy remains unchanged. As in the past few years, it will continue to cooperate with foreign companies in their distribution in various markets, always on condition that the question of limitation of production does not enter the question. The Soviets will not artificially limit their output. One of the most interesting agreements they will have to negotiate before long will be with the Standard Oil companies operating in the Near East. In recent years the Russians have been disposing of considerable oil stocks to these companies, especially of kerosene. A refining plant was set up at Batum specifically to supply this outlet. When the Iraq pipe line, in which Standard Oil has a sizeable interest, begins to deliver, as it is expected to, towards the end of the year, there may have to be an adjustment in this relationship.

As for other relationships between the Soviet and the American oil industries, it may be said that the former have drawn heavily on our scientific sources. Dr. S. C. Herold's methods of appraising an oil pool have been accepted by Soviet engineers and are now being used by them. Russia can still use much of the machinery produced in this country. Thus far, however, the Export-Import Bank, by means of which the necessary credit will have to be extended to Russia for Russian-American trade, has not done anything in this direction, being apparently under the influence of the recently enacted Johnson bill, which requires that no credit be granted countries that have not arranged debt settlements. Although government agencies, such as the Export-Import Bank, are exempted from its provisions, the trustees of the bank have nevertheless passed a resolution that they would first await the results of debt negotiations with Russia before they take up the question of extending it credit.

Germany Helping Wildcatters With Loans

Paul J. Reveley, vice consul, Leipzig, estimates approximately 60 tests will be partly financed by the German government under an arrangement whereby the government loans money at five percent interest to those operators having 50 percent of cash on hand necessary to drill a well. The loans mature in 20 years. All lease holders in a wildcat area are jointly responsible for the loans, indicating a very definite trend, possibly, toward government controlled, unit operation.

Natural Gas in Bombay

Sultan Chinoy of Bombay, British India, and associates are reported to be planning to furnish Bhavnzgar with natural gas from the recently discovered commercial reserve in the Broach district of Bombay province.

Revised Texas Spacing Rules Will Affect Drilling in Texas

Austin, Texas.—Important revisions of the spacing rules and methods of handling exceptions to these rules were established by the Texas Railroad Commission during the past week in three separate orders.

The new statewide rule reads as follows:

"No well for oil or gas shall hereafter be drilled nearer than 300 feet to any other completed or drilling well on the same or adjoining tract or farm; and no well shall be drilled nearer than 150 feet to any property line, lease line, or sub-division line; provided that the commission, in order to prevent waste or to prevent the confiscation of property will grant exceptions to permit drilling within shorter distances than above prescribed whenever the commission shall determine that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. When an exception to such rule is desired application therefor shall be filed with the commission fully stating the facts, which application shall be accompanied by a plat drawn to the scale of one inch equaling 400 feet, accurately showing to scale the property on which permit is sought to drill a well under an exception to this rule, and accurately showing to scale all other completed, drilling and permitted wells on said property; and accurately showing to scale all adjacent surrounding properties and wells. Such application shall be verified by some person acquainted with the facts, stating that all facts therein stated are within the knowledge of the affiant true, and that the accompanying plat is accurately drawn to scale and correctly reflects all pertinent and required data. Such exception shall be granted only after at least 10 days notice to all adjacent lessees affected thereby has been given, and after public hearing at which all interested parties may appear and be heard, and after the commission has determined that an exception to such rule is necessary either to prevent waste or to protect the property belonging to the applicant from confiscation. All pending applications shall be amended to conform to this rule before being acted upon. Upon similar application and showing the commission may grant exceptions to the application of this rule in fields where the production is obtained from a formation which is known to be segmented by piercement of intrusive salt plugs.

"In the interest of protecting life and property and for other just and reasonable causes the commission reserves the right in particular fields to enter special orders increasing the minimum distances provided by this rule."

The order also sets out that in those instances where wells are drilled in violation of this rule, they shall be plugged.

Probably the most radical departure that the commission has made in the promulgation of this order is the abandonment of the theory that permits should be granted for the protection of "vested rights". Instead the exception must be based on prevention of waste and to prevent confiscation of private property.

Attorney John Kilgore of the Texas Petroleum Council, who assisted in the preparation of this rule, declared that the commission was perfectly within its rights in declining to grant permits for the protection of vested rights. He argued that the police power granted the commission was a right superior to the vested right of the property owner to withdraw from his land any and all oil or gas which might exist beneath the surface. Other attorneys, however, disagreed with this argument and expressed doubt as to the validity of this section of the rule.

Another important feature provides that no exception to the rule shall be granted until a hearing has been held at which the evidence is presented by the applicant to show that unless the permit is granted, waste will ensue, or property rights be confiscated.

In the past it has been the practice to grant a large majority of these exceptions in those instances where it appeared obvious, from the map submitted, that the granting of the application was justified.

The commission, on the day that this order was issued, had set hearings for every open date through the ninth of July. Unless another examiner is installed, it appears that months may elapse before operators will be able to obtain hearings on their wells.

East Texas Rule

Commenting on the operation of the revised rules, Commissioner Thompson pointed out that hearings will now be required on every exception to the statewide rule in the Gulf Coast area, regardless of the fact that the well is located in a piercement type dome field.

For many years the commission has followed the practice of allowing operators in piercement type dome fields to drill wells at any point they chose, and in some instances two wells have been drilled to different sands under the same derrick.

The move was hailed with approval by the Texas Petroleum Council, which furnished the services of its chief counsel, John Kilgore, to work out details with the commission.

"The Commission," the Council declared in a prepared statement, "has halted what threatened to become a costly, needless and dangerous drilling race, which might easily have destroyed the regulatory system, based upon our conservations laws***."

They also expressed approval of the wording of the revised rules providing that exceptions shall be granted "only to prevent waste or the confiscation of property rights***."

Discussing the question of the omission of the words "vested rights" from the spacing rules, Commissioner Thompson declared that it was not the intent of the commission to attempt to deprive any citizen of his rights.

"Each landowner," Thompson said, "still retains the rights he has always had to produce from beneath his land, and the land of his neighbors, all the oil he can—subject to the rules and regulations of this commission."

Asked if he meant the law of capture, Thompson said that "this is the common law of the land, although it is not written on the statute books."

He pointed out that the operation of the commission's rules governing the spacing, drilling, completion and operation of wells in Texas would prevent any operator from taking advantage of this law to the detriment of other operators in the same field, or from flaunting the conservation policies of the commission as set out in the rules.

The commissioner evidently anticipates that the operation of this rule will seriously retard drilling activities throughout the state.

Sub-divisions Denied

A second statewide rule issued by the commission prohibits the subdivision of property in any oil field for the purpose of circumventing the spacing rule. This order is based on the Third Court of Civil Appeals decision in the Sun case, which held that such subdivisions, after a field has been discovered, are invalid.

MARKETS ~ STATISTICS

Production Below New United States Allocation After Drop. Refined Market in Mid-Continent Inclined to Weakness — California Situation Cleared.

Crude Oil Production Near Level of Indicated Demand

UNITED STATES crude oil production declined for the week ending June 2 to a level 34,000 barrels lower than the previous week's daily average, having averaged 2,448,020 barrels per day.

That figure was 82,000 barrels above the national allowable as fixed by the oil code administration for April and May, but the indicated excess was not alarming in view of the fact a new, higher allowable became effective June 1, reflecting consumer demand. The June 1 allowable is 2,528,300 barrels or about 80,000 barrels more per day than the output for the past week.

The closer conformity with the old allowable for the past week as compared with the preceding week came about largely through declines for Oklahoma and California, both of which were practically within their April-May allocations, after having been above them in the preceding weeks.

Texas and Kansas, the other two of the four leading oil producing states, were not only above their April-May allocations for the past week, but even exceeded their June 1 quotas.

Oklahoma output dropped to 476,995 barrels daily, only a few hundred barrels more than its April-May allowable, after having been at 511,500 barrels daily the previous week. The June 1 allowable is 511,700 barrels daily. Oklahoma City and the Seminole area largely accounted for the week's lower production.

California's production declined by 15,000 barrels, going down to 465,000 barrels daily for the week of June 2. The April-May allowable was 462,500 barrels daily, and the June 1 allocation was 500,300 barrels per day.

Texas production rose 12,000 barrels in the new week to 1,040,700 barrels daily. The April-May federal agency allocation for Texas was only 980,700 barrels per day, and the new June allowable is 1,032,300 barrels. The Texas Railroad Commission, however, has not fixed quotas entirely in conformity with the federal allocations, and the past week's output was about in line with the state agency's allowable. The above figure on Texas output does not, however, include any estimate of "hot" oil production, which is occurring chiefly in the East Texas field, and which has been averaging around 50,000 barrels daily, it is reported.

Kansas production continued at about the same level as in the previous week, averaging 132,100 barrels, compared with an April-May allocation of 122,100 barrels, and a June 1 quota of 130,300 barrels in the federal agency schedule.

THE OIL WEEKLY

Estimated Average Daily Production of Crude Oil, Barrels.

District or State	Week Ending June 2	Week Ending May 26
TEXAS—		
Texas Panhandle	59,300	59,000
North and West Central Texas	89,600	83,000
West Texas	140,800	140,400
East Central Texas	52,000	50,000
East Texas Field	478,000	476,000
South Texas	48,000	48,000
Texas Gulf Coast	173,000	171,500
Total Texas	1,040,700	1,027,900
OKLAHOMA—		
Oklahoma City	158,450	177,025
Seminole Area	112,065	129,100
Tatums	6,625	6,875
Lucien	11,100	7,750
Others	188,715	190,350
Total Oklahoma	476,995	511,500
LOUISIANA—		
North Louisiana	25,400	25,400
Louisiana Gulf Coast	57,000	57,000
Total Louisiana	82,400	82,400
ARKANSAS	29,925	30,050
KANSAS—		
Ritz-Canton	13,550	14,400
Voshell	6,900	8,950
Nikkel-Hollow	20,300	16,200
Sedgwick	8,065	8,140
Others	83,285	85,110
Total Kansas	132,100	132,800
CALIFORNIA—		
Long Beach	64,000	63,500
Santa Fe Springs	41,000	39,300
Huntington Beach	38,500	44,000
Dominguez	17,000	15,300
Inglewood	7,000	7,400
Ventura Avenue	22,000	30,000
Seal Beach	7,500	7,200
Midway-Sunset	56,500	54,000
Elwood	10,500	10,500
Kettleman Hills	60,000	60,500
Playa del Rey	8,500	8,800
Others	132,500	130,500
Total California	465,000	480,000
MOUNTAIN STATES—		
Wyoming	32,000	31,500
Montana	7,100	7,150
Colorado	3,000	3,100
Total Rocky Mountain States	42,100	41,750
NEW MEXICO	45,800	45,800
EASTERN STATES	101,000	99,650
MICHIGAN	32,000	31,000
Total United States	2,448,020	2,482,850

Mid-Continent Refined Market Is "Spotted"

THE Mid-Continent market slipped during most of the week and as the week end approached was characterized as spotty. Some observers attribute the trend to failure of Congress to pass a control bill and there are many who believe that the session may slip away before a satisfactory bill is passed. In the meantime jobbers were sitting back watching the situation but showing no inclination to buy for future delivery.

Gasoline stocks in Group 3 were reported increasing but the rate of increase was not thought to be of such magnitude that it could not be wiped out with a few days of good buying.

Prices based on Group 3, Oklahoma, and exclusive of tax were:

Low octane 59 or under octane rating U. S. motor fuel 4¼ to 4⅜ cents.

Middle grade 60 to 64 octane rating, 4⅝ to 4¾ cents.

High or above 65 octane, 5⅛ to 5⅜ cents.

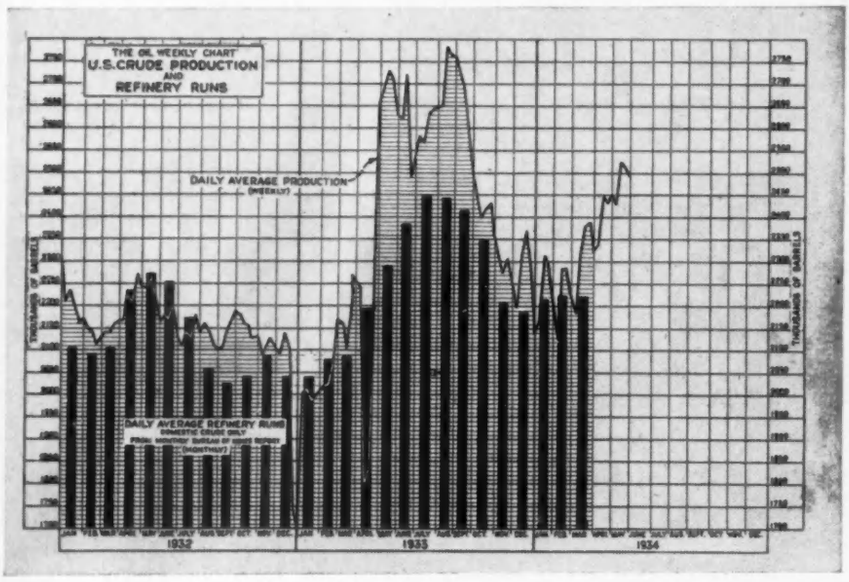
Kerosenes 41 to 43 gravity water white 3⅛ to 3⅜ cents and 42 to 44 gravity, 3¼ to 3½ cents.

The 11-pound vapor pressure naturals, 3⅞ to 4 cents; 18-pound grades, 3⅛ to 3¼ cents; and 26-70, 2¼ to 2½ cents.

California Market Situation Improved

THE gasoline price was that has been in progress in California for about three months came to an end May 24 with an increase of two cents a gallon in the retail price of all grades at all important points in the state. Representatives of most of the refineries in the state reached Washington May 29 to secure approval of the new marketing plan for the Pacific Coast which has been signed by all refiners with one lone exception. It is felt there will be no real trouble in securing federal approval.

The entire Pacific Coast market sit-



uation is in fair to better condition. Fuel oil for offshore movement is holding firm at 68 to 75 cents a barrel. Gas and Diesel oils are firm and scarce.

The crude oil allowable for California for June and July has been increased to 500,300 barrels a day, due to increased demand, an increase from 466,800 barrels daily in effect during May. There is hope in many quarters that the actual production in June will be nearer the allowable than was the case in April or May.

The outlook for a prosperous summer for the oil industry in California is more than bright and both producer and refiner are taking a more cheerful view.

Los Angeles.—At the close of April, 43 California refineries with a combined daily capacity of 761,935 barrels throughput, were operating. At the same period, 93 natural gasoline plants with a daily capacity of 2,251,000,000 cubic feet were in operation. These figures were reported by the Bureau of Mines, California office.

How Production Compares with Federal Allocation

	Allocation June	Week Ending June 2[1] Daily Average		4 Weeks, May 26[2] Daily Average	
Arkansas	33,000	29,925	−4,075	30,600	
California	500,300	465,000	−35,300	484,900	
Kansas	130,300	132,100	+1,800	130,550	
Louisiana	83,000	82,400	−600	81,900	
Texas	1,032,300	1,040,700	+8,400	1,025,500	
Oklahoma	511,700	476,995	−34,705	516,800	
New Mexico	48,000	45,800	−2,200	46,000	
Rocky Mountain	48,000	42,100	−5,900	41,700	
Appalachian States	108,900	101,000	−7,900	100,050	
Michigan	32,800	32,000	−800	31,750	
United States	2,528,300	2,448,020	−80,280	2,489,750[3]	+123,550[3]
Imports crude and fuel oil				156,250	
Crude to Stills[2]				2,472,000	

[1]Oil Weekly estimate for current week. [2] A. P. I. estimate. [3]Allowable for period was 2,366,200 barrels.

April Shipments From California High Point

Los Angeles.—Tanker shipments of petroleum products out of California ports in April reached a total of 5,980,202 barrels, the largest movement any month this year.

The total movement in March was 5,540,465 barrels, compared with 5,545,377 barrels in February and 5,696,046 barrels in January. Close to 90 percent of the total movements is divided almost equally between Atlantic domestic and Pacific foreign.

During April the total movement included 2,617,220 barrels of fuel oil, 880,864 barrels of crude oil, 1,329,201 barrels of gasoline and 607,480 barrels of kerosene, in addition to other miscellaneous products. The movement of package goods that month reached a total of 242,090 gallons, mostly gasoline.

Los Angeles.—Stocks of petroleum in California were reduced 2,931,846 barrels during April, and of this total withdrawal, 2,119,772 barrels came from heavy crude and fuel oils of all grades. Gasoline stocks were reduced 639,436 barrels. Since December 31, last, California stocks have been reduced slightly better than 10,000,000 barrels.

Imports Show Gain Week of May 26

IMPORTS of crude and refined oil at principal United States ports for the week ended May 26 totaled 860,000 barrels, a daily average of 122,857 barrels, compared with 186,714 barrels daily the previous week and 156,250 barrels daily for the four weeks ended May 26.

The 860,000 barrels included 110,000 barrels received at Baltimore, 361,000 barrels at New York, 111,000 barrels at Philadelphia, and 278,000 barrels at other Atlantic Coast ports; and consisted of 559,000 barrels of crude oil and 301,000 barrels of fuel oil.

The above figures include all oil imported, whether for domestic use or in bond, for later re-export, but in weekly statistics separation is not available. According to the Bureau of Mines, however, oils imported in bond during the six months ended March 31, 1934, averaged about 20,000 barrels daily.

Receipts of California oil at Atlantic and Gulf Coast ports, including crude and refined oils, for the week ended May 26 totaled 472,000 barrels, or 67,429 barrels daily, compared with 76,000 barrels daily

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended May 26, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity at Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	503	86.4	6,456	10,523	16,979	980	191	7,392	496	471	95.0	70
Appalachian	150	140	93.3	106	75.7	1,226	562	1,788	324	157	808	69	69	100.0	26
Ind., Ill., Ky.	446	422	94.6	331	78.4	6,303	2,501	8,804	1,135	48	2,786	325	308	94.8	95
Okla., Kans., Mo.	461	386	83.7	258	66.8	3,693	1,859	5,552	807	566	3,098	256	234	91.4	59
Inland Texas	351	167	47.6	98	58.7	1,255	111	1,366	320	313	1,803	82	66	80.5	22
Texas Gulf	566	552	97.5	465	84.2	4,565	293	4,858	2,405	170	5,293	358	349	97.5	86
Louisiana Gulf	168	162	96.4	101	62.3	683	529	1,212	236	.....	1,097	71	71	100.0	19
North La.—Ark.	92	77	83.7	57	74.0	242	20	262	75	30	459	41	38	92.7	11
Rocky Mountain	96	64	66.7	32	50.0	1,203	.....	1,203	177	43	667	46	42	91.3	9
California	848	822	96.9	454	55.2	10,361	2,108	12,469	918	2,832	*80,607	209	209	100.0	44
TOTALS WEEK: May 26, 1934	3,760	3,374	89.7	2,405	71.3	35,987	18,506	54,493	7,377	4,350	104,010	1,953	1,857	95.1	441
May 19, 1934	3,760	3,374	89.7	2,430	72.0	35,705	18,656	54,361	7,913	4,350	102,896	1,953	1,857	95.1	451

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week May 26, 1934, compared with May 1933 Bureau figures.

Estimate B. of M. Basis May 26, 1934	2,550		470
Estimate B. of M. Basis May 19, 1934	2,575		480
U. S. B. of M. May 1933: Daily Average Crude Runs	2,398	U. S. B. of M. May 1933: Daily Average Cracked Prod.	529

(a) Amount of unfinished gasoline contained in naphtha distillates.
(b) Estimated. Includes unblended Natural Gasoline at refineries and plants: also blended Motor Fuel at plants.
*Increase over previous week partially due to inventory adjustment.

the previous week and 74,000 barrels daily the four weeks ended May 26.

The 472,000 barrels included 210,000 barrels received at New York, 113,000 barrels at Philadelphia, and 149,000 barrels at other Atlantic Coast ports; and consisted of 113,000 barrels of gasoline, 80,000 barrels of kerosene, and 279,000 barrels of fuel oil.

Summary of Field Results During Past Week

State	Completions	Oil wells	Gas wells	Failures	Init. prod.
Arkansas	1	0	0	1	0
California	6	6	0	0	2,880
Colorado	1	0	0	1	0
Indiana	11	3	2	6	105
Kansas	19	15	0	4	8,562
Kentucky	2	1	0	1	15
Louisiana	15	8	1	6	10,446
Michigan	8	6	0	2	5,489
Montana	4	3	0	1	354
New Mexico	1	1	0	0	3
Ohio	18	5	7	6	127
Oklahoma	43	23	2	18	19,477
Pennsylvania	1	0	0	1	0
Texas	206	153	9	44	742,931
W. Virginia	12	5	2	5	40
Wyoming	2	0	1	1	0
Total	350	229	24	102	790,429

Washington, D. C.—Receipts of crude oil at refineries during April totaled 73,102,000 barrels of which 70,257,000 barrels were domestic and 2,845,000 barrels foreign oil, according to the monthly report of the Bureau of Mines. Daily average receipts of 2,437,000 barrels showed an increase of 67,000 barrels over March, receipts of foreign crude increasing 17,000 and domestic crude 50,000 barrels.

Crude runs to stills during the month totaled 73,563,000 barrels, or 461,000 barrels more than total receipts, resulting in a reduction of stocks from 65,527,000 barrels April 1 to 64,715,000 barrels April 30, it was stated.

Washington, D. C.—The United States Supreme Court refused on Monday, May 28, to reconsider its recent decision requiring Mid-Continent Petroleum Corporation to drill an exploratory test on 320 acres of land in Greenwood County, Kansas, or surrender its leases within a reasonable length of time. The land in question is part of a 360-acre tract leased by Philip Sauder in 1916 and obtained by Mid-Continent Petroleum Corporation by assignment. Two wells were drilled and are now being operated on 30 acres of the tract. The corporation takes the attitude that present conditions do not warrant the drilling of more wells and that it has met lease obligations by drilling of the two wells.

Rawlins, Wyo.—Producers & Refiners Corporation's (Sinclair Prairie) Wertz 4, in the SW SW NE Section 7-26n-89w, Wertz Dome, Lost Soldier district, Carbon County, is redrilling at 2942 feet. Test drilled to 3541 feet and was near its objective when it had to plug back to 2800 feet because of crooked hole.

Comparison of Permits Granted for New Wells

State	Week ending June 2	Total this month	Total this year	Total this date last year	1933 year total
Arkansas	4	4	32	28	47
California	13	13	221	129	593
Louisiana	16	16	318	218	755
Kansas	16	16	..	211	682
Michigan	16	16	213	104	420
Oklahoma	41	41	..	399	1,315
Texas	288	288	4,353	2,301	7,845
Total	394	394	6,436	3,390	11,651

CRUDE OIL STOCKS

Since oil code went into effect. Bureau of Mines figures as compiled monthly and comprising all crude oil in storage in the country. Based on new form for stocks, and not comparable with previous months.

At end of:	Total Bbls. in storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	{ 355,394,000 / *354,305,000
January, 1934	353,642,000
February	351,641,000
March	354,067,000

*On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.

Trend of stocks situation since end of March, figures being from weekly reports to federal government by companies *holding 100,000 barrels or more.*

March 31	341,363,000
April 28	340,658,000
May 5	342,107,000
May 12	341,719,000
May 19	341,394,000

WELLS COMPLETED

Month	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7

MOTOR FUEL STOCKS

(American Petroleum Institute figures, as shown in weekly reports.)

Date	Motor Fuel stocks, bbls.
September 9, 1933	50,913,000
September 30	50,457,000
October 28	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
February 24	55,976,000
March 24	57,879,000

After March 24, 1934, figures shown represent stocks of finished gasoline, to be marketed as motor fuels, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	*54,493,000

*Stocks of motor fuel on May 27, 1933, aggregated 57,067,000 barrels.

May Drilling at Four-Year Peak; Conditions Generate Optimism

(*Continued from page* 14)

months output was substantially above the allowable. But the crude production was not actually excessive, as evidenced by the fact crude stocks were not increased, while gasoline stocks were brought down. It is to be presumed in view of these circumstances that the federal agency allowable represented an under-estimate of consumer demand, and that the violation of the allocation is vindicated by the stocks situation. In recognition of the high demand with which the oil industry is now favored, the oil code administration raised the national allowable, effective June 1, to 2,528,300 barrels daily.

While crude oil production was already being controlled fairly successfully, particularly since inauguration of several new, strict oil laws in Texas in the latter part of March, the regulation of crude output was further strengthened May 22 when a United States circuit court of appeals at New Orleans upheld validity of the NIRA oil code in a reversal of a federal district court ruling. Through the decision federal agents were made free to take part in enforcing control of crude production.

Bureau of Mines complete figures on crude stocks are not available for later than the end of March, but reports to the federal government from companies holding 100,000 barrels or more, representing a high percentage of the industry, indicated that crude stocks were about the same May 19 as at the close of March, when they amounted to 354,067,000 barrels. And information from other sources, including the latest weekly report of the American Petroleum Institute, indicates probability of some decrease of crude stocks between May 19 and the end of the month. While the crude stocks were increasing for a short time at the close of April and beginning of May, they declined in compensation during the rest of the opening 19 days of May.

Drilling at High Level

Drilling activity in May was so great as to furnish an average of 50.7 well completions daily, including oil wells, gas wells, and dry holes, as reported in THE OIL WEEKLY. That average was 15 percent higher than the April completions, and 100 percent higher than those for May, 1933. The 1933 peak of drilling was in December, when 47.7 wells were completed daily, and the 1933 "low" was in June, when there were 21.1 completions per day.

To find a higher record of completions, it is necessary to go back to August, 1930, when there were 52.5 completions daily. The remainder of 1930 brought decreased drilling, and 1931 was a year of relatively little drilling, with East Texas dominating the oil picture. In 1932 drilling reached its peak in June, when there were 48.4 completions per day.

Increased drilling for the nation in May as compared with April resulted from a sharp gain in the Eastern States, substantial increases in practically all sections of Texas and in Oklahoma, and smaller rises in Michigan and the Rocky Mountain States. Kansas field work dropped off considerably, and slight decreases occurred in Louisiana and Arkansas, while New Mexico drilling continued at about the same level in May as in April.

Stanolind Reduces Pipe Line Rates

Tulsa.—Announcement has been made by Stanolind Pipe Line Company of a reduction of five cents per barrel in its trunk line tariffs on Mid-Continent and West Texas crude, effective June 21. The new rates are as follows: Mid-Continent to Sugar Creek, Missouri, 25¾ cents; Mid-Continent to Wood River, Illinois, 32¼ cents; Mid-Continent to East Chicago, 41 cents; Winkler County, Texas, to Wood River, 50 cents, and to Whiting, Indiana, 60 cents.

Gathering charges on crude in Oklahoma and Kansas were reduced from 15 cents to 10 cents per barrel effective the same date.

What Iraq Gains Others Will Lose

United States and other countries will lose part of their export business to France when Iraq Petroleum Company completes the long line from production in Iraq to the Mediterranean. France is planning to use Iraq oil, part of which it owns.

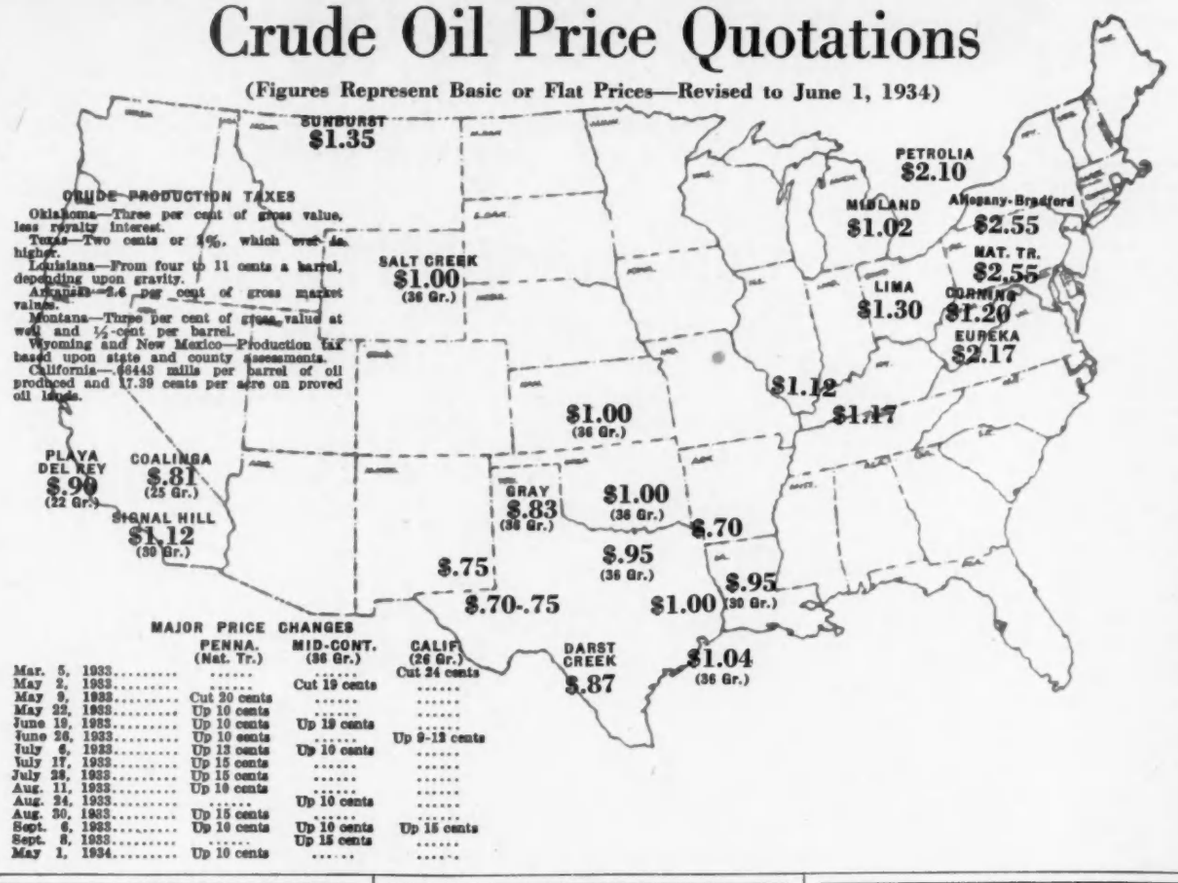
1933 Roumanian Output

Bulk of Roumanian oil was produced in 1933 by the following companies:

Royal Dutch Shell	19.53 percent
Steaua-Romana	15.16 percent
Romano-Americana	7.82 percent
Belgian Concordia	14.26 percent

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to June 1, 1934)



CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.
Texas—Two cents or 4%, which ever is higher.
Louisiana—From four to 11 cents a barrel, depending upon gravity.
Arkansas—2.6 per cent of gross market values.
Montana—Three per cent of gross value at well and ½-cent per barrel.
Wyoming and New Mexico—Production tax based upon state and county assessments.
California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
Mar. 5, 1933	.....	.....	Cut 24 cents
May 2, 1933	.....	Cut 19 cents	.....
May 9, 1933	Cut 20 cents	.....	.....
May 22, 1933	Up 10 cents	.....	.....
June 19, 1933	Up 10 cents	Up 19 cents	.....
June 26, 1933	Up 10 cents	.....	Up 9-13 cents
July 6, 1933	Up 13 cents	Up 10 cents	.....
July 17, 1933	Up 15 cents	.....	.....
July 28, 1933	Up 15 cents	.....	.....
Aug. 11, 1933	Up 10 cents	.....	.....
Aug. 24, 1933	.....	Up 10 cents	.....
Aug. 30, 1933	Up 15 cents	.....	.....
Sept. 6, 1933	Up 10 cents	Up 10 cents	Up 15 cents
Sept. 8, 1933	.....	Up 15 cents	.....
May 1, 1934	Up 10 cents	.....	.....

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Etor, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia. Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
Eldorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20—* .80	2¢	34— 1.10	9-29-33
	Below			
Iowa, Cameron Mds.	20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Elk Basin	$*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N.M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.17			9-29-33
California				
Signal Hill	14— .65	1¢	16—$ .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .99	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans				
Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	28— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2 25			4- 1-34
Sw Pa., Pipe Line	*2 22			4- 1-34
Eureka Pipe Line	*2 17			4- 1-34
Buckeye Pipe Line	*2 07			4- 1-34
Corning Grade	*1.20			9-11-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

Ickes Again Urges Bill Adoption As Hearing Opens Before House Committee

(*Continued from page 9*)

A bitter attack on Secretary Ickes as having in mind "a change in government" marked the opening of the hearings to the opposition, led by Elwood Fouts, Houston attorney, representing independent producers. Charging the secretary with seeking "regimentation" of the oil industry, Fouts declared he had the approval of 90 percent of the producers "because 90 percent of the properties are owned by the major companies, while the remaining 10 percent are independents of whom by far a majority are against the bill."

The oil administrator also was charged with espionage, Fouts asserting that after appearing before the senate committee to testify against the legislation, when he listed a number of individuals and companies which he said were opposed to the bill, he found a "bunch of investigators" in Houston a few days later "trying to get something on these people."

The witness declared that none of the independents he represented are "hot oil" producers and denied also that the state authorities cannot control the situation in Texas.

A growing sentiment among members of the committee against hasty action was evidenced by questions asked during the hearings regarding constitutional and other problems. Declaring that there are a number of constitutional questions involved in oil cases now in the courts, Representative Cole of Maryland suggested that it might be "reasonable to suppose that when we get back here in January we will have all these court questions settled and know how to proceed."

Members of the committee got their first view of a real "hot oil" producer when Edwin W. Pauley, head of the Petrol Corporation, Los Angeles, bluntly declared he was producing "hot oil" and represented "other hot oil producers." He and these others, he said, were producing in excess of their quotas because the restrictions were discriminatory and unjust, pointing out that the major companies were permitted to withdraw as much as 100,000 barrels a day from storage, which was approximately 25 percent of the allowable for the state.

Admitting that his company is the defendant in court proceedings brought by the oil administratory, Pauley defended his position by pointing out that the state, by popular vote, had rejected a bill passed by the California legislature, providing for production control.

The hearings will be resumed June 5.

Washington, D. C.—Flat deniel of charges by Elwood Fouts of Houston that interior department agents had been placed on the "trail" of independents whom he had named during his appearance before the Senate mines and mining committee in opposition to the oil control bill was issued today by the oil administration.

Formal statement was made by the administration, but officials declared no such investigation as Fouts had charged has been instituted.

Collection of New Mil Tax On Oil Will Start June 9

Dallas, Texas. — Effective midnight June 9, the Bureau of Internal Revenue of the United States Treasury Department will start collecting one-tenth of one cent per barrel on all crude produced, stripper wells excepted, and a similar tax applies on each barrel of crude petroleum refined or processed by refineries. Natural gasoline plants are likewise to be taxed this amount on each barrel of natural gasoline produced.

Although the amount of this tax levy is a nominal burden to producers and plant operators, it is expected to provide the means of arming the Federal authorities with a close check on the activities of proration violators, particularly those in the East Texas field. Provisions are made for state authorities to have access to the monthly renditions of each tax payer.

Refiners and natural gasoline plant operators are required to register with the collector for his respective district before the thirtieth day after the date of the enactment of the revenue measure, which was approved 11:40 a.m. May 10, 1934, and also to post a minimum bond of $2000. It is reported that refiners will be required to give bond equivalent to six months tax liability in such instances that the minimum bond is deemed inadequate.

This latest revenue act requires that every plant owner engaged in producing gasoline shall keep records showing daily receipts, stocks and disposals of crude petroleum and the names and addresses of the persons from whom received. Returns and records required under this section shall be open to inspection at all reasonable hours by any duly authorized representative of the commissioner or any agency of the United States or any state having supervisory or regulatory powers over the production of crude petroleum. This privilege of inspection by state authorities also applies to every person handling, transporting, storing or dealing in any manner in crude petroleum.

The tax levy does not apply to wells not capable of producing more than five barrels daily.

The tax on crude production is to be paid by the purchaser, who is required to make the monthly returns under oath, and deduct the amount of the tax in settling with the producer.

Provisions are made in this new tax measure on crude and gasoline to gain an accurate check on proration violators, who render a correct tax statement on their activities. The revenue acts put into effect on June 21, 1932, calling for a levy of one cent per gallon on gasoline, and later increased to 1½ cents per gallon until the close of 1933, and a tax on oil movement by pipe lines failed to be of any aid to proration authorities.

Although nearly two years have elapsed since the enactment of the first federal tax on gasoline and pipe line shipments, it is reported that no criminal action has been taken against persons and companies purported to have defrauded the government in the East Texas field during the early stages of these tax measures. It is reported that a number of owners of small refineries and pipe lines in the East Texas field wilfully defrauded the government on tax renditions during the first six months that the measures were in force, and escaped prosecution through payment of maximum penalties that were easily financed through enlarged hot oil activities. The government's failure to prosecute in these particular cases indirectly caused the violators to become bolder in their operations according to the view held by some operators in the field.

It is understood that such leniency will not be shown wilful evaders of the new tax measures since the latter were enacted primarily to afford a better checkup on illicit operations of producers and refiners.

The tax on crude petroleum and liquid products thereof moved by pipe line amounts to four percent of the gathering and delivery tariff, and the act is scheduled to be terminated next July 1.

Texas Proration Figures Set During Short Hearing

Austin, Texas.—The statewide proration hearing before the Texas Railroad Commission May 28, was concluded within two hours, and while minor differences were argued by a few operators, practically all of the testimony was of a technical nature relating to physical changes in the condition of various fields.

Nominations by purchasers for crude oil totaled 1,128,307 barrels per day, and during the course of the session operators indicated that offers to purchase some additional oil would be made.

Total allowable for the state at the time the hearing began was 1,039,122 barrels per day. This included an allowable of 482,100 barrels for the East Texas field on May 27.

Nominations by prospective purchasers and total daily allowable are reasonably close to the federal allocation of 1,032,300 barrels per day.

Nominations by districts were as follows:

District	Allowable	Nominations	Excess Over Allowable
East Texas	482,100	480,444	1,656*
East Central	52,746	45,145	7,601*
Panhandle	56,800	63,000	6,200
North Texas	56,500	73,402	6,902
West Central	31,000	26,260	4,760*
West Texas	139,008	173,491	34,933
Southwest	52,650	53,089	439
Gulf Coast	168,318	209,026	40,708
Total 1,039,122		1,128,307	

*Indicates nominations less than the allowable.

Commissioner Earnest O. Thompson, who acted as chairman, announced that the nominations filed would be considered by the commission as evidence of consumer demand, along with the Bureau of Mines estimate of consumer demand, which was based on the following figures:

Gasoline	Barrels
To be consumed in Texas during June	1,900,000
Exports from Texas	990,000
Requirements from other consuming districts, East Coast, Indiana, Illinois, Oklahoma, Kansas, Arkansas and Louisiana.....	6,210,000
Total	9,100,000
Reduction of refinery stocks.....	150,000
Net requirements	8,950,000
Natural gasoline	480,000
Net refinery production from crude.	8,470,000

Crude Oil	
Net crude required for above.....19,040,000	
Foreign shipments ... 1,170,000	
To other refining districts 13,610,000	14,780,000
Consumed as fuel, etc.....	460,000
Total requirements 34,280,000	
Crude imports	3,310,000
Net requirements from state.....30,970,000	
Daily average for June.....	1,032,300

Panhandle

Evidence of a market demand of 63,000 barrels per day in the Panhandle was presented. It was said that there are bona fide nominations for 62,730 barrels, slightly less than the amount nominated to the commission at Austin.

East Texas

A 10-pound drop in average bottom hole pressure for the East Texas field from April 7 to May 8, was reported by Harry Miles, engineer for the commission. He estimated that pressures are declining at the present time at the rate of .666 pounds per million barrels produced, which he declared was an efficient rate of operation for the field. He recommended that the current allowable of five percent of the hourly potential of the field be maintained.

He said that the allowable for the field on May 27, the day before the hearing, was 482,100 barrels per day. He pointed out further that completions were coming in at the rate of about 10 per day, which indicated a field allowable on June 1 of about 493,018 barrels per day. He anticipated that the allowable for the field on July 1, would total 504,000 barrels.

Miles said that there were 686 wells in the field classed as marginal. These include both pumping and flowing wells, classed as marginal because of their low potential when compared to the potential of other wells in the field. He explained that this indicated the field was in a healthy condition, as there were 1396 wells classed in this way on March 28.

North Texas

Harry Hines of the Deep Oil Development Company, declared that the North Texas district had been materially expanded during the past four years that proration has been in effect, and that for this reason a higher allowable for the district was needed.

He pointed out that there are now 15,000 wells in the area, which extends 100 miles east and west from Nocona to Vernon, and 100 miles northeast and southwest from Vernon to the Jack County fields.

Of the wells in the area, 13,986 are marginal wells exempt from proration, and the remaining 1187 wells are regarded as flush producers. These flush wells receive the marginal allowance of 10 barrels plus an allowance of 10 percent of their potential. However, he explained that no well is rated at more than 300 barrels on the potential basis. When the marginal allowance is subtracted, there remains only 290 barrels for the potential allowance, and 10 percent gives the well an additional allowance of 29 barrels, or a maximum allowance of 39 barrels for the best producers in the district. The allowable of 56,500 barrels distributed among 15,000 wells gives an average per well allowance of 3.733 barrels.

West Texas

P. P. Gregory, petroleum engineer for the Yates Advisory Committee, renewed his contention that a lower allowable than 70,000 barrels per day for the Yates field was causing physical waste.

He pointed out that the decline in bottom hole pressure during 1934 was 1.658 pounds per million barrels produced. Gregory explained that this was almost double the pressure drop prevalent when the field was producing in the neighborhood of 65,000 barrels per day.

Garland Woodward, representing Howard-Glasscock operators, declared that the field had increased 34,700 barrels per day in potential since July 1, 1933, and that the allowable had been reduced by 2500 barrels per day during the same period. He said that the potential of the field on May 28 was 137,670 barrels per day, and asked that a higher allowable for the field be granted.

S. W. Richardson, Scarborough operator, requested a 1500 barrels increase for that field. He declared that oil was being shipped into West Texas, in the El Paso area where he markets his products, and that it would be continued unless he was able to obtain a higher allowable for wells in the Scarborough field.

The University of Texas, through its petroleum geologist Hal P. Bybee, asked that the allowable for the Church and Fields area be increased by about nine barrels per well per day for the next six or nine months. Bybee pointed out that there were about 200 wells on University land in the area which operators would abandon unless they were able to produce sufficient oil to cover the cost of reconditioning these wells. He declared that a large amount of recoverable oil would remain in the formation, and that the state, as well as the University would suffer considerable loss unless this oil was produced.

Operators in the Gulf-McElroy and McClintic pools, integral parts of the same field, declared their willingness to have the allowable increased in the Church-Fields area, provided it was extended to include wells in the other pools

Southwest Texas

Saxet operators asked that the allowable for that field be increased 1000 bar-

rels per day, in order that deep wells producing from the 4896-foot horizon might not be drowned out.

Gulf Coast

Operators in the Conroe field asked to put on evidence to show that a commission order issued on May 12 allowing certain wells producing from the Cockfield to flow wide open should be rescinded.

Commissioner Thompson announced that the order would be countermanded that day, which was done.

O'Brien Stevens, president of the Conroe Operator's Association, said subsequently that no testimony would be offered, but requested that in the future the commission adopt the policy of holding hearings before orders of this nature were issued. He pointed out that one well was making as much as 1700 barrels per day, to which other operators, producing the allowable only, objected.

Commission Fixes Rules For Two New Fields

Austin, Texas.—The Texas Railroad Commission has issued permanent rules for operating in the new Vanderbilt and Angelita fields, which became effective on May 31.

The orders do not fix an allowable for either field, but do determine the method of distribution, which is on the acreage basis.

Spacing of wells in the field 330 feet from lease lines and 660 feet apart is provided. In the Angelita field this spacing applies, but proration units may include 25 acres, as much of the field is cut up in 25-acre leases, or multiples thereof.

Because operators complained that mud heavier than 10 pounds was injurious rather than helpful in controlling gas, the commission fixed the 10-pound weight.

The new statewide spacing rule wording was used in the order.

New Proration Orders Are on Acreage Basis

Austin, June 1.—The railroad commission's new rules on Angelita, Vanderbilt and New Pettus fields, issued June 1, call for proration on a strict acreage basis, engineers here pointed out.

So far as could be ascertained Greta is the only other field on a strict acreage basis, although most Southwest Texas fields have acreage as a controlling factor.

Deep Formation on Island Of Formosa Will Be Tested

Japan is not satisfied with its status as a producer of crude oil, and development of formations as deep as 10,000 feet will be attempted in Formosa, according to K. Uyeno, engineer and manager of production for Nippon Oil Company, who is now in Houston. This company is a government controlled organization, and has been carrying out a modern development campaign.

Shukkoko is the leading oil field in Formosa. Seventy wells have been drilled in this field, which has at this time a daily production of 300 barrels of 45 gravity oil. This area also produces a large amount of gas. One well blew out and produced gas at the rate of more than 150,000,000 cubic feet. The test was brought under control, however, and about 150,000 gallons of gasoline was recovered. No. 8 well blew out from 3858 feet.

Several large wells have been completed in the Shukkoko field, but the production decline was rapid. Gravity of the oil has been an attraction, however.

The largest gas field on the island of Formosa is Kiusui, a producing area of some importance. A total of 25 wells have been drilled, of which five were commercial gas wells with an average initial production of 20,000,000 cubic feet. The company's No. 12 well recently developed mechanical trouble at 2376 meters (7795 feet), and may not be drilled deeper.

Four gas sands have been found in the Kiusui gas field, zones at 800, 1050, 1360 and 1440 meters having been productive. Nippon Oil Company recently purchased a heavy American rotary outfit for use in this field. The structure is a flat anticline and has great possibilities, according to Mr. Uyeno. This is the field on which the 10,000-foot test will be drilled.

The Gyunikuzaki gas field has not been extensively developed, the three wells on production having a small flow from 1240 to 1440 meters.

Japan is largely dependent upon other countries for its supply of petroleum products, but looks forward to a much greater production in the future. The deeper formations offer considerable promise, and their development is largely a mechanical problem. Heavy gas pressures in two of the three fields are considered indicative of favorable oil conditions in deeper zones.

Venezuelan Output Up; Exports Too

In April Venezuela produced nearly two million barrels more than it did in April, 1933. Production in April, 1934, totaled 11,027,690 barrels; in April, 1933, it totaled 9,058,350 barrels. Shipment of crude from Lake Maracaibo to ocean terminals averaged 332,000 barrels daily, a substantial increase over the 311,300 barrels daily average for April of 1933.

Shipments Start From Persian Gulf Soon

Shipments of crude oil in commercial quantities by Standard Oil Company of California from its concession on Bahrien, island in the Persian Gulf, to California, will start July 1, according to a statement credited to James A. Moffett, vice president of that company.

Pressure Injection Is Being Tried in Russia

Maikop Oil Trust, one of the five oil trusts of U.S.S.R., is experimenting with gas pressure injection in Apsheron field in the Kuban district in the southern portion of the nation. Three injection wells are being drilled.

Huntington Beach Has Only Nine Drilling

Los Angeles.—Only six wells are active in the new part of Huntington Beach, and three are drilling in the old area. Standard Oil Company is drilling four and preparing to start two others.

W. E. McCaslin is still trying to make a deep sand producer out of Transport 17, which last year reached 8365 feet. It blew out last year and nearly wrecked the equipment. A string of 4¼-inch is cemented at 6875 feet. The hole is now being pumped, making water and a little oil.

The well is located in the townlot area, near the ocean, and has caused many to believe that when oil is needed badly other 8000-foot holes will be drilled.

Michigan Geologists Make Field Trip

Mt. Pleasant, Mich.—More than 60 Michigan geologists participated in the annual field trip of the Geology and Mineralogy Division of the Michigan Academy of Science, May 26 and 27, studying glacial formations in the Thumb Region of the state. The trip included studies of a series of old shore structures in the Thumb Region along Lake Huron with stops at the Ulby and Imlay outlet channels and a visit to glacial Lake Kersley.

Lower lake levels provided an excellent opportunity for the glacial studies.

The tour was under the direction of Dr. Frank Leverett, University of Michigan, glacial geologist.

Next year's field trip will be concerned with the studies of the Traverse and Dundee structure outcrops.

» » THE WEEK'S NEWS « «
from All Fields

HIGH SPOTS IN BRIEF

Drilling operations continued to gain last week as revealed by comparison of completions and new starts, the former showing 350 and the latter (all districts not reported) at 394. Texas continues the big lead on both ends and this week accounted for all but 48,000 of the 790,000 barrels of new production. East Texas and North Texas are contenders for leadership in new wells, either of them being far in advance of any other districts, their new initial being 566,170 and 153,445 barrels respectively, the latter influenced largely by one well.

North and West Texas

Archer County continues dominance in North Texas where completions included 40 producers with nominal initial among 62 new wells, while Yates field in West Texas holds all laurels for volume of new production with a well on a fractional tract rated at 150,000 barrels initial.

The Panhandle reported nothing to be excited about.

Production in Ector County was extended.

Plugging orders are expected soon for one of the deep tests in West Texas while the second deepest current test, in Upton County, is going ahead below 10,260 feet.

Gulf Coast

Deep development along the Louisiana Gulf Coast continues to hold the interest of large companies formerly accustomed to much shallower development in the area. Several operators will develop holdings in the Bosco and Roanoke districts as the result of two important deep discoveries. Deep formations along the Louisiana Gulf Coast have great possibilities.

The Splendora area in eastern Montgomery County continues one of the most active wildcat districts along the Texas Gulf Coast. Another well topped the Cockfield sand, while one of the original tests may be completed as a gas well. The old Goose Creek field is holding the interest of several operators who are anxious to develop a larger production of the light oil found around 4400 feet.

California

The record depth well in Kern County is drilling below 11,370 feet and is preparing to make a production test. Also in Kern County a new field, producing from a shallow depth, has been designated the Duff field. Formerly it was known as the Edison district. Kettleman Hills has 25 tests actively underway.

New Mexico

A second well gives hope for the Lea County area north of the Jal area, New Mexico. The drill stem test indicated production from 3489 to 3498 feet.

Oklahoma

It's Seminole again with indications that another pool is to be added to the area. Between the Fish pool and Sasakwa, the Wilcox sand produced 500 barrels in an hour. Then the connections were blown loose.

Kansas

Four in a week is the latest record in Kansas. Since the first of the year the Sunflower state has had 16 new strikes. The last four are yet to be proven commercially.

East Texas

Hot oil production continues in East Texas, although the law is claiming a spotlight position. Arrests followed the uncovering of a by-pass system by which oil was being taken from leases and delivered to refineries. Illegal oil is estimated at 70,000 barrels daily. Completions for the week were 73 and initial output totaled 566,000 barrels.

Brine Pits Used to Stop Michigan Stream Pollution

Mt. Pleasant, Mich.—Approximately 20 brine retaining pits in the Vernon oil field were nearing completion this week as operators rushed to fulfill recent orders of the state conservation department to cease dumping of brine in the tributaries of the Tittabawassee River where pollution has steadily mounted during the oil development in Central Michigan.

Approximately 6000 barrels of brine is being produced daily from the Vernon field, according to the latest surveys conducted by the state stream control department, most of which has found its way either directly or indirectly into streams. This brine dumping, according to the state, has resulted in pollution of the tributaries of the Tittabawassee River to the point that it is driving out fish, killing aquatic growth, and increasing the costs of water treating in downstream water plants of Saginaw, Midland and Bay City.

After more than a year's study the stream control department recommended the construction of retaining ponds as the most practical and economical means of lessening pollution. It is anticipated that by retaining the brine in pits that through seepage and evaporation most of the problem will be solved. However, it is planned to drain the brine ponds in the spring high water months.

Other oil areas in Central Michigan are held to be contributory causes to pollution but not as yet to a serious point. Means of control are anticipated in other areas before the close of the summer. The Pure Oil Company is piping about 2000 barrels of brine daily from its Porter pool wells to the Dow Chemical Company plant in Midland.

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Humble Quits Cockfield Test at Raccoon Bend

Houston.—In the Raccoon Bend field, Austin County, Humble Oil & Refining Company's Hardy B-4, J. Groce Survey, has been abandoned at 5000 feet. This well never did encounter the Cockfield. It was the second well to try for this formation, since the company's discovery well came in as a good producer. On a drill stem test taken from 3403 to 3425 feet the well showed salt water through a three eighths-inch choke on top and bottom. A core was taken from 3989 to 3994 feet which showed sand and shale with a trace of oil and gas. The company cored ahead to the abandonment depth of 5000 feet. The same company's Sherwood 5 was preparing to pump at 3383 feet. The well blew at this depth. Screen was set but the well would not flow. Effie Kerns 3, W. C. White Survey, has been spudded and was drilling below 993 feet late last week. Hill 1, was still a location.

Tulsa.—The Tulsa Geological Society held its annual picnic and dance on Friday evening, May 25, at Mohawk Park and Mohawk Club. This affair has come to be looked upon as one of the jolliest gatherings of geologists and this year was no exception with a large percentage of members of the society in attendance. Among those featured during the evening program were Richard Hughes, who gave a Mae West impersonation, and Kent K. Kimball, who presented a fan dance of unusual merit.

Oklahoma City.—Lone Star Gas Company has been notified of an increase of $800,000 in its 1934 tax assessment over the voluntary return filed with the state tax commission. The state equalization board, in dismissing the company's protest, set the final assessment at $2,533,404. Action was taken on a motion of Governor Murray to dismiss the protest. The company is now engaged in a supreme court fight against a rate reduction ordered in 26 Oklahoma communities.

Second Wilcox Found Productive at Chandler

Chandler, Oklahoma.—Magnolia Petroleum Company's Telford 6, NE SE SE Section 7-14n-4e, in the Chandler pool of west central Lincoln County, had a hole full of water in first Wilcox sand at 4986 to 4996 feet and yielded 1541 barrels the first 24 hours from second Wilcox sand at 5012 to 5022 feet. So far as can be determined this is the first time that lower Wilcox sand has been found productive in the area and some of the older wells which are now just about exhausted in the Upper Simpson formation may be drilled to the usually high prolific Wilcox member of the formation.

Water was shut off from upper Wilcox sand with a string of 5 3/16 inch casing in this case but as general practice 7-inch casing could be set between the two Wilcox members.

Old Washita County Test Will Be Carried Deeper

Oklahoma City.—Oklahoma Mid-West Oil Corporation has reassembled the old Burns & Prince block near the town of Sentinel in Washita County, Oklahoma, and will resume drilling in Dock 1, SW SW SW Section 21-8n-18w, within the next two weeks. The test was commenced in 1931 by Burns & Prince who drilled to 2162 feet and shut down in August, 1932. A small showing of oil and gas was reported between 1525 to 1650 feet. The newly organized company has obtained 10-year leases on 6200 acres, paying a bonus of 50 cents per acre on a majority of the leases.

To Resume Drilling On Alfalfa Wildcat

Enid, Oklahoma.—Work was scheduled to be resumed during the week at Tex-O-Kan Development Company's Acre 1, CSW NE Section 14-24n-11w, Alfalfa County wildcat four miles northwest of Helena. Total depth is 6460 feet in Mississippi limestone with the hole standing full of oil and water and showing about 500,000 cubic feet of gas. Water is believed coming from behind the casing. This test was spudded in September, 1929, and drilling has been carried on intermittently since that time under several different ownerships.

Oklahoma City.—An appeal of the Oklahoma Natural Gas Company from an order of the Oklahoma Corporation Commission, was remanded to the commission for further hearing during the week. Chairman Paul A. Walker stated that the case probably would be dismissed since members of the commission, officials of the company and Governor William H. Murray, had reached an agreement in 1931 regarding rates. An appeal was taken to the supreme court when the commission ordered a temporary reduction of 10 cents per 1000 cubic feet from a maximum of 57 cents per 1000 cubic feet.

Oklahoma Accepting Bids For Lease of State Lands

Oklahoma City.—Eight tracts of school and state lands comprising 640 acres in Garfield and Lincoln Counties will be offered for oil and gas leases by the state. Sealed bids will be accepted until 2:00 p.m., June 18, all bids subject to the right of rejection by the state school land commission. Two tracts in Garfield County are 5½ miles northwest of the Lucien pool and apparently on the Ponca City anticlinal trend. The remaining tracts are five miles west of the new Meeker pool in southwestern Lincoln County. Tracts offered for lease are as follows:

Tracts No.	Description	No. of Acres
	GARFIELD COUNTY	
1.	E½ NW 13-21n-3w	80
2.	W½ NW 13-21n-3w	80
	LINCOLN COUNTY	
3.	E½ NW 36-12n-2e	80
4.	W½ NW 36-12n-2e	80
5.	E½ SE 36-12n-2e	80
6.	W½ SE 36-12n-2e	80
7.	E½ SW 36-12n-2e	80
8.	W½ SW 36-12n-2e	80

Interest in the north central portion of Cleveland County was shown during the week when bids on 480 acres of lands lying four miles east of the town of Moore were opened. The State School Land Commission announced that bids ranged from $7.50 to $50.75 per acre. Lease awards were to be made June 4. The area is directly southeast of the Oklahoma City pool and thought to be on the Nemaha Ridge trend which is now one of the interesting trends of the state.

Forty-Three Oklahoma Wells Add 19,477 Barrels

Tulsa.—Forty-three tests passed into the completion stage during the week as Oklahoma scouts reported 23 oil wells with total initial of 19,477 barrels, two dry gas wells with total initial volume of 7,000,000 cubic feet, one abandoned location, two abandoned rigs and 15 dry holes.

Osage County retained its commanding lead with seven wells yielding 4658 barrels initially.

Total footage was 97,893 feet.

Reports were as follows:

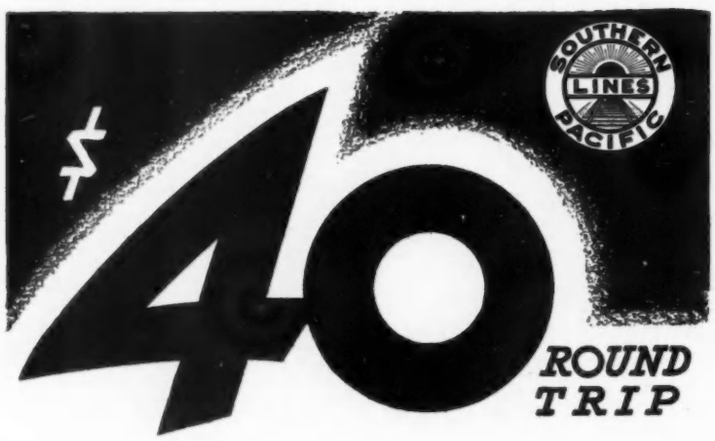
Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
English Drlg., McKenna 3, ne sw se 11-5n-9w	*	3315
CARTER COUNTY—		
Carter, Lynn 4, sw ne se 31-1s-2w	68	2147
Wirt Franklin, Signer 2, nwc nw 24-1s-3w (owdd)	30	2304
Skelly, Pierce 4, nw ne sw 8-2s-2w	¶2-14	2880
Don Leon Oil, L. O. Majors 1, se sw se 22-2s-3w	*	300
COMANCHE COUNTY—		
H. C. Miller-Goodnite, Weidman 1, sec nw 34-2n-12w	*	305
CREEK COUNTY—		
C. G. Tibbins, Sneed 1, sw nw ne 18-14n-9e	35	2305
Carter Oil, Durant 8, se ne ne 18-16n-9e (owdd)	*	3551
Magnolia, Street 1, nec ne 3-17n-8e (owpb)	15	1348
E. B. George et al, Lee 1, sw se sw 33-18n-8e	*	....
Doke & Hughes, Slick 6, sec se 34-18n-8e	8	1315
Curtis Oil, Young 1A, sec sw 34-18n-9e	*	2075
LINCOLN COUNTY—		
Magnolia, Telford 6, ne se se 7-14n-4e	387	5022
Magnolia, Gilliam 5, se sw sw 8-14n-4e	*	5005
LOGAN COUNTY—		
Eason Oil, Katcher 1A, cnw sw 34-17n-4w	2052	6270
MUSKOGEE COUNTY—		
E. Price, Franklin 1A, nw ne ne 1-14n-15e	*	1616
NOBLE COUNTY—		
Shell, Kolb 1, cnw sw 28-20n-2w	¶2-1308	5095
W. K. Snyder, Reginas 1, nwc se 1-24n-1w	*	1566
OKLAHOMA COUNTY—		
Gulf, Wilmot 3, nec sw 22-11n-3w	¶15-3864	6531
Harper-Turner, Harrison 1, nw ne nw 22-11n-3w	*	....
Hayes 1, ne se nw 22-11n-3w	*	....
G. D. Warr & Carl Larkin, Beaucamp 1, swc se 22-11n-3w	¶16½-6262	6580
OKMULGEE COUNTY—		
Oklahoma Oil Corp., Burgess 1, se sw ne 26-12n-12e	¶5	2123
Rossiter, Burgess 8, nec nw 20-12n-13e	*	2523
Wonderich, Teal 2, se nw se 25-14n-11e (owdd)	*	2775
Harmon, F. Harjo 3, sec se 6-15n-12e	¶2	546
Summers, Roe 5, swc nw 16-15n-14e	12	849
OSAGE COUNTY—		
Stanley & Davis 1, nw sw se 11-21n-8e	*	2485
I. Nadel et al, 6, cs½ n½ nw 35-23n-11e	*	1900
Champlin 3, se ne nw 16-24n-7e	200	2670
Continental & Gypsy, 4, nec ne 21-24n-7e	660	2634
Sinclair Prairie, 39, cw½ e½ sw (owdd)	*	2025
Sinclair Prairie & I. T. I. O., 1, nec se 9-25n-6e	1041	2853
Carter, 6, sw se ne 10-25n-6e	¶12-1408	2784
Champlin, 2, swc ne 15-25n-6e	960	2834
A. H. Kashishke, 5, nwc sw 15-25n-6e	111	2866
Champlin, Carroll 1, nwc se 15-25n-6e	¶2-279	2797
POTTAWATOMIE COUNTY—		
Mid-Continent, Upton 2, nec ne 1-6n-4e	240	4145
Phillips Pet. et al, Carpenter 1, sw se ne 4-8n-5e	52	4040
SEMINOLE COUNTY—		
Mid-Continent, Smith 3, sw se sw (owdd)	15	4353
STEPHENS COUNTY—		
George Pace et al, Seiver 1, sec sw 4-1n-7w	*	3302
Owl Oil Co., Billey 23A, cne 9-3s-5w	466	463
TULSA COUNTY—		
Cummings Bros., Bunger 1A, se sw nw 27-17n-13e	*	1988

*Failures; †Junked; ¶Million cu. ft. gas.

Deep Test Started Near Carter-Knox Production

Ardmore, Oklahoma. — Carter Oil Company staked location for Harrison 1, CNW NW Section 28-3n-5w, a 7000-foot test less than one-half mile west of the Carter-Knox pool in southeastern Grady County. Main production in the pool is between 1500 and 1800 feet with other production down to 2609 feet.

The same operator drilled Kerns 6, SW NE SE Section 21-3n-5w, in the north end of the pool, to 7000 feet about four years ago. At that time it was believed the test was on the downthrow side of a fault and Carter has since been taking all available acreage in a strip just west of and parallel to the pool. Its acreage now extends almost solidly from the northwest corner of Section 7-3n-5w to the southwest corner of Section 33-3n-5w. The test will determine Pennsylvanian possibilities for the general area in event it reaches contract depth. Contract has been let to Laughlin Brothers.



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Another Seminole Pool In the Making

Tulsa. — Winona Oil Company and Jarvis-Holm's Myers 1, SE SW NE Section 31-7n-8e, one mile south of the Fish pool and two miles north of the old Sasakwa pool, southeastern Seminole County, topped Simpson dolomite at 4187 feet and penetrated Wilcox sand from 4214 to 4216 feet where it blew out and tore up connections. Production the first hour was 500 barrels but it was believed that under actual test it would yield at a better rate since some of the oil was diverted into the pits.

This appears to be one of the major finds in the Seminole district during the past several years and some estimates are running as high as 25,000 barrels. Reports that the well is cutting 25 percent water caused some speculation as to its importance but operators believed this due to damaged casing.

Plugging Back Started In Edmond Pool Test

Oklahoma City.—Hugh Rapp et al's Price 1, CE¼ NE SW Section 19-14n-3w, in the Edmond pool of northern Oklahoma County was drilled deeper, penetrating sand from 6684 to 6748 feet at which depth operators had 4000 feet of fluid in the hole, about 50 percent water. When last reported it was being plugged back at 6733 feet using lead wool.

Lucien Pool Due for Six Early Completions

Perry, Oklahoma.—The Lucien pool in southwestern Noble County had 16 active operations, six of which were due to be placed on the completion list at an early date. Shell Petroleum Corporation et al's Magney 4, CNW SW Section 17-20-2w, was drilling below 4450 feet; Shell Petroleum Corporation et al's Wolff 3, CSW NW Section 17-20n-2w, on the discovery lease, was drilling below 3815 feet; the same operator's Miller 2, CNE SE Section 18-20n-2w, shut down at 5001 feet after cementing 8⅝-inch casing with 1200 sacks at 4995 feet; Magnolia Petroleum Company's Long 2, CNE SE Section 20-20n-2w, drilled to 5155 feet, 28 feet in the Wilcox sand and yielded 1680 barrels the first 24 hours; Shell Petroleum Corporation's Kolb 2, CSW SW Section 28-20n-2w, was connecting with total depth at 4905 feet; Skelly Oil Company's Long 2, CSW NW Section 28-20n-2w, topped Wilcox sand at 5096 feet, drilled to 5112 feet and yielded 456 barrels the first 24 hours; Stanolind Oil and Gas Company and Amerada Petroleum Corporation's Frederick 1, CSW SE Section 28-20n-2w, location

Carter Oil Company's Henn 1, CNW SE Section 29-20n-2w, produced 3351 barrels in 12 hours along with gas at the rate of 4,000,000 cubic feet from a total depth of 5174 feet in Wilcox sand; the same operator's Tate 2, CSE NW Section 29-20n-2w, rigging up standard tools at 4972 feet; Gypsy Oil Company's Verna 1, CNE SE Section 29-20n-2w, drilling below 4150 feet; the same operator's Verna 2, CSE SE Section 29-20n-2w, drilling below 3390 feet; Sinclair Prairie Oil Company's Bohn 2, CNE SW Section 29-20n-2w, fishing for bit with total depth at 4464 feet; and Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Kolb 2, NE SW SW NW Section 33-20n-2w, digging pits and moving in materials.

Kansas Completions Add 8,562 Barrels Initial

Wichita, Kans.—Scouts reported 19 completions from eight Kansas counties during the past week. Included in the reports were 15 oil wells with total initial production of 8562 barrels, one abandoned rig and three dry holes. McPherson County led the state in number of completions when seven oil wells yielded 2120 barrels initially. Reno County led in size of initial with two wells yielding 3245 barrels. Drilling footage for the week, including two old wells drilled deeper, was 48,043 feet.

Reports of the week are shown below:

Company, Well and Location	Init. Prod. Bbls.	Depth
BUTLER COUNTY—		
Garden, Jacobs 1, sw ne ne 6-25s-4e	*	3141
ELLSWORTH COUNTY—		
Aylward et al, Stratman 8, nw se se 1-17s-10w	*	3257
GREENWOOD COUNTY—		
Phillips Pet., Beal 7, se nw ne 28-23s-11e	75	1996
Findeiss, Eureka Bank 2, csl nw ne 16-24s-12e	*	1684
HARVEY COUNTY—		
Sinclair Prairie, Schrader 3B, ne nw ne 4-22s-3w	811	3503
KINGMAN COUNTY—		
Skelly, Leisman 4, se ne ne 29-27s-10w	179	3459
J. M. Ratcliff 4, nec nw 30-27s-10w	585	3476
McPHERSON COUNTY—		
Youker, Rolander 1A, se sw sw 20-18s-2w (owpb)	12	2415
Helmerich, Russell 1, nw se ne 23-19s-2w	240	3375
Shell Pet., Finkle 2, nec nw 23-19s-2w	229	3371
Roth et al, Swanson 3, sw se ne 13-19s-3w	808	3017
Carlson 1, ne nw ne 24-19s-3w (owdd)	90	3025
Lario O&G, Miller 3, ne se se 1-20s-2w (owdd)	309	3401
Progressive Drlg., Stucky 1, nec sw 4-21s-3w	*	....
Shell Pet., Koehn 4, sw ne ne 16-21s-3w	432	3413
RENO COUNTY—		
Study et al, White 1, sec se 2-23s-4w	1672	3638
Olson, Goering 2, cse sw 26-23s-4w	1573	3585
RICE COUNTY—		
Empire, Heckel 5, se nw sw 18-20s-9w	677	3336
Gypsy, E. Malone 1, swc ne 18-20s-9w	870	3349

*Failures; †Junked; ¶Million cu. ft. gas.

Four Kansas Wildcats Showing as Producers

Wichita, Kansas.—Since the first of the year 16 new pools have been found in Kansas, making the first five months of the year one of the most successful periods in Kansas oil development. This unusual success came to a high point during the past week when four scattered wildcat tests found production apparently in commercial quantity.

Continental Oil Company, Shell Petroleum Corporation and Empire Oil & Refining Company's Lansing 1, NW NW SE Section 25-18n-8w, four miles south of Geneseo in north central Rice County, encountered top of the Arbuckle limestone at 3132 feet and at 3155 feet had 2300 feet of oil in the hole. It was then deepened to 3165 feet and filled at the rate of better than 500 feet an hour. Operators then drilled to 3172 feet and had 2850 feet of oil in the hole in eight hours. The test was then shut down awaiting tankage.

In southeastern McPherson County Continental Oil Company had oil slopping over from Graber 1, NE NE

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NW Section 32-21s-1w, from limestone logged at 3274 to 3293 feet. On a swabbing test it made 25 barrels per hour. This test is on the Ritz-Canton trend.

E. B. Shawver et al's Brookings Dairy 1, SWc Section 16-28s-1w, one-half mile north of the Robbins pool in Sedgwick County, was producing at the rate of 10 barrels per hour from 3095 to 3099 feet and making approximately 5,000,000 cubic feet of gas.

Duwe and Dustin's Evans 1, CNE NW Section 25-24s-8w, in central Reno County, logged Kansas City-Lansing formation from 3532 to 3539 feet where it had 2000 feet of oil in the hole. It is one-half mile southeast of Skelly Oil Company's Kansas City-Lansing discovery.

12 Arrested for Stealing Oil From East Texas Wells

Longview, Texas.—Oil thieves quarreling over the distribution of cash bribes purported to have been paid by several independent refiners in the Gladewater section of the East Texas field led to the arrest of 12 alleged participants in the well organized plot to steal oil from owners of wells under the cover of darkness. Charges have been filed in district court here against the men for conspiracy to steal oil on information furnished by employes of the Texas Railroad Commission. Those charged were allowed to post $1000 bonds while awaiting trial.

The accused were alleged to have stolen crude from properties of the Grisham-Hunter Corporation near Gladewater through bribing a lease man to hide out while the wells were thrown open into specially built lines. The F-H-E Oil Company has discovered that oil thieves have been raiding its Clements lease, located east of Gladewater, through tampering with locked gate valve on a well at night and diverting the production through a by-pass arrangement hooked up with lead line leading to lease tanks.

The thieves were moving the oil at night via the by-pass to a 37,500-barrel tank held under lease on another property but had failed to shut off the gate valve leading to this container.

The lease man on the F-H-E Oil Company property uncovered the plot when the well failed to deliver its allowable into lease tank. Officials of the company have announced that no funds will be spared in prosecuting the guilty parties.

Billings, Mont.—The Ohio Oil Company is drilling below 650 feet in Agnes Maddox 14, NW NW Section 10-7s-21e, in the Dry Creek field, southwest of here in Carbon County.

Production of Hot Oil in East Texas Not Interrupted

Tyler, Texas.—Producers of illicit crude in East Texas continued to reap their harvest during the past week in the face of threats issued one week previous by Washington that prosecution of violators would be started at once. Violators are inclined to ignore repeated threats of prosecution by federal authorities, while district court restraining orders filed by the attorney general's department on information furnished by the Texas Railroad Commission are no longer effective in curbing hot oil activities.

The morale of the commission's enforcement staff is badly shattered because of differences that exist between members of the commission and R. D. Parker, chief administrative officer of the oil and gas division and in charge of the East Texas field. Parker incurred the illwill of superior officers by eliminating inefficient political appointees from the state payroll when given full responsibility of tightening proration in East Texas on March 31.

The staff of special agents and assistants assigned to the field by the Administration are still confining their activities to procuring evidence against violators, but are making no effort to stop violators of proration rules, or shippers of illicit crude and refined products made thereof on interstate consignments.

More than 70,000 barrels of illegally produced crude originated in East Texas daily during the week ending May 28, according to competent observers. Figures prepared by the commission's staff accounted for an average daily crude movement of 540,500 barrels for the week, while during the same period allowable production from 13,318 wells was estimated at 478,750 barrels daily. Main line systems transported 485,950 barrels daily, and local refineries and topping plants averaged 54,550 barrels daily. The latter figure is highly speculative, as a large number of such plants refuse to allow employes of the commission to come on their premises, and all plants making routine reports on activities to the commission invariably doctor the records to serve their peculair purposes, or omit vital information in filing such reports.

Prospective Failure Will Define Cayuga East Side

Longview, Texas.—Productive limits of the Cayuga field, northwestern Anderson County were believed to be partially defined on the east flank when J. R. Meeker et al's Duncan 1, located in the townsite area, failed to show oil or gas saturation in coring five feet into the Woodbine sand horizon to 4168 feet, or 3813 feet below sea level. It is considerably below the accepted water level of the field previously determined by drilling two wells through the oil sand.

The outcome of Meeker's test on the Duncan 12½-acre lease, A. Enes Survey, has been followed with greater interest than any other recent test in the Cayuga field as it is surrounded by numerous small tracts that would be developed immediately upon being proven for production. Duncan 1 logged Austin chalk at 3360-3758 feet, with an elevation of 355 feet. Hill et al's Tubbs 1, nearest producer and about 1500 feet to the southwest, logged Austin chalk at 3330-3708 feet, with an elevation of 322 feet, and the oil-gas producing sand at 3330-3708 feet, with an elevation of logs of the two tests on a sub sea basis indicated that Duncan 1 was only 17 feet lower on the base of the Austin chalk, but encountered an unusually thick section of Eagleford shale above the Woodbine.

Ample proof that the Cayuga field is to cover a big territory in a north and south trend was furnished last week when Tide Water Oil Company and Texas Seaboard Oil Company's J. N. Edens 2, located 4600 feet south of their discovery well on the same tract and 3750 feet southwest of the nearest production found normal structural position in logging the top of the Woodbine section and first gas sand. Edens 2 logged top of Woodbine at 3810 feet, or 3530 feet below sea level and top of first sand at 3860 feet or 3580 feet sub sea. Upon its completion as a producer the field will have been proven for about 2½ miles in a north and south direction with favorable outlook for major extensions on each end. The northernmost well was completed by the discoverers May 27 when N. N. Wills 2 flowed 223 barrels of pipe line oil in 23 hours through 3/16-inch choke from sand at 4084-4089 feet after plugging back from 4113 feet because of drilling into salt water near the 4095-foot level. It has a surface elevation of 324 feet, and is the second well on the discovery block to successfully shut off bottom hole water after drilling through the Woodbine sand.

Cherokee County Wildcat Showing Favorably; Will Test

Palestine, Texas. — The Cherokee County wildcat test of Wood and others on a block largely surrounded by leases held by major companies and southwest of Rusk, was scheduled to be tested for production in the Woodbine sand late last week after having previously given promise of making a producer based on analysis of cores recovered before cementing pipe above the sand. If successful in making a producer it will be the sixth oil or gas discovery made in the south end of the Woodbine sand belt in East Texas since last fall.

All available leases in the vicinity of the wildcat test of J. T. Wood, Houston, and associates in south central Cherokee County, on the New Birmingham Development Company 160-acre lease, Levi Jordan Survey, were covered immediately after the recovery of Woodbine sand showing traces of oil saturation near the 5125-foot level. This test is about seven miles southwest of Rusk and on a block procured from the Shell Petroleum Corporation, which has retained lease protection in the area. Other major lease owners includes Sun Oil Company, General Crude Oil Company, Amerada Petroleum Corporation and Pure Oil Company.

Wood et al's test logged Pecan chalk at 3980-4306 feet and top of Austin chalk at 4840 feet with an elevation of 432 feet. It found only a thin section of Eagleford shale, a condition normal for the area. The nearest dry hole is that of the General Crude Oil Company's Southern Pine Lumber Company 1, Nancy Arrington survey, located about four miles to the west. The latter topped the Woodbine sand at 5147 feet and first red beds at 5169 feet, with an elevation of 348 feet but yielded salt water when tested at 5176 feet where it was abandoned last January.

Sun Oil Company is preparing to proceed with the exploration of its Erskine block, located on the Anderson-Houston County line and adjacent to the east bank of the Trinity River, having deferred drilling for about six months to correct titles. Location will be on the Robt. N. Erskine 5203-acre tract, Box survey.

Derrick has been erected for the Trinity sand test reported last week as having been financed by R. L. Wheelock and J. L. Collins, Corsicana, with a one third interest held each by Magnolia Petroleum Company and Humble Oil & Refining Company, on the west flank of the southern part of the Corsicana-Powell field, Navarro County. This deep test is to be on the I. N. Cerf 50-acre lease, James Smith survey.

Hunt Production Company's Henry Rayford 1, J. L. Dillard survey, a Smith County wildcat trying for production about midway between Tyler and the west edge of the East Texas field, failed to encounter oil or gas upon reaching the Woodbine sand horizon near the 3970-foot level. It has an elevation of 512 feet.

Magnolia Petroleum Company is moving in materials to explore its 27,000-acre wildcat block in the water shed of White Oak Creek, Franklin County, having made location several weeks ago to drill J. M. Dupree 1, located in the southeast corner of 640-acre lease and also the W. D. Taliaferro survey. The block ex-

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tends from the east edge of the county in a southwesterly direction to the town of Mahoney, Hopkins County, about 18 miles, and is reputed to have cost more than $200,000. A parallel zone of faulting to the north of this block is to be tested shortly by Humble Oil & Refining Company, Ed. B. Hopkins, E. DeGolyer et al, who have a block of about 6000 acres reputed to register a perfect closure on the east and west by geophysical surveys conducted by the individuals participating in the project. Humble Oil & Refining Company holds one half interest in the block and is to drill in the W. D. Gill survey, about two miles south of Hagansport.

Three wildcat failures were completed in the Woodbine belt of East Texas last week. In Henderson County, John R. Black et al's G. B. Meredith 1, Wiley Kay survey, was abandoned at 4235 feet after logging salt water in the upper and lower Woodbine sand. In Smith County, the Texas Trading Company's O. T. Ray 1, M. P. Duncan survey, was abandoned in water sand at 5194 feet, while Hunt County added to its long list of failures when J. H. Waggoner Oil & Gas Company's J. R. Love 1, John Grillisky survey, drilled through the Woodbine section to 3385 feet.

Refugio Gas Wells Deepened to Oil Zone

San Antonio.—Houston Oil Company's F. B. Rooke 11 opened a new sand, which may result in a drilling campaign in the western portion of the Refugio field. The well is at a total depth of 4937 feet, where it is flowing 760 barrels of oil daily through ⅛-inch choke on the tubing and 5/16-inch choke on the casing. The tubing pressure is 460 pounds and the casing pressure is 450 pounds. The oil is 31.4 gravity corrected.

The well is located south of Medio Creek and east of the lake. It is in the Thomas Mullen Survey. The well is surrounded by gassers from sands at 1200, 1830, 2100, 2400, 2500, 3600 and 3800 feet. A few oil wells are located to the south, but they are in the 3600-foot sand.

This well was an old gasser in the 3600-foot horizon drilled during the earlier days of the Refugio field. It was deepened, picking up the oil showing at 4922 feet. A core at 4930-35 feet, showed poor recovery. At 4935 to 4937 feet the core showed sand and shale with the hole bottomed on a hard cap. Casing was set at 4918 feet.

Of particular interest is the fact that there has been very little deep drilling in this area. The zone is considered a gas producer. The east side of the field has a series of oil sands producing down to 6600 feet.

East Texas Completions Gauge 566,000 Barrels

Tyler, Texas.—Maintaining its usual large quota of new wells, the East Texas field completed 73 wells flowing or pumping initially 566,170 barrels; a gasser and two failures during the past week, making a total of 76. Major companies accounted for 32 of the new wells.

Six wells included in the latest batch of completions failed to register natural flow upon completion, and initial gauges were determined through swabbing, pumping or on air-gas lift equipment. The gasser was completed in Sinclair Prairie Oil Company's Kangerga 1, Sec 80-acre lease, W. Pettit Survey, rated at 25,000,000 cubic feet daily from Woodbine section at 3633-3656 feet, or 3315 feet below sea level. It is the southernmost producer in the field, and a short distance south of a gasser drilled by Mid-Kansas Oil & Gas Company.

The two dry holes were drilled by the Yount-Lee Oil Company and Tide Water Oil Company on the east flank of the field in northern Gregg County. The former scored its first failure when W. E. Bolton 1, NWc of 53¾-acre lease, Wm. Robinson Survey, missed the sand in drilling to lime at 3611 feet, while the other company's B. A. Skipper 2, located 600 feet south of production, was abandoned at 3579 feet.

Detailed list of completions in the East Texas field during the past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Arcadia Ref. Co., J. R. Green 3-B, (10-ac)	5500	3762
Atlantic, S. Giles-Southern 5, (15.3-ac)	7000	3690
I. L. Kinney-Murchison 18 (336-ac)	7000	3650
Bond Oil Corp., D. Bradford-Rusco 2, (3.66-ac)	240	3650
Burwin Oil Corp., M. Smith-Humble	400	3675
E. E. Coombs et al, B. Fox 8 (31.19-ac)	6300	3690
Great Plains O&G Co., S. Stone-Cloud 3-A	6000	3707
Humble, J. R. Box 12 (165.72-ac)	9500	3827
J. E. B. Sneed 8 (104.7-ac)	10,000	3789
Hunt Prod. Co., D. Bradford 5-F (55.8-ac)	350	3643
Lexena Oil Corp., F. J. Cox 6 (36-ac)	6000	3782
Fred S. Markham et al, Cook 5 (20-ac)	9600	3742
Mid-Kansas, W. T. Grissom 64 (842.7-ac)	8500	3686
M. L. Thompson 10 (98.15-ac)	6500	3647
Octo Oil Corp., W. H. Frederick 1-B (7-ac)	500	3680
Shell, W. P. Brett-Lion 4 (26.26-ac)	7500	3698
Sinclair Prairie, Kangerga Bros. 1 (80-ac)	¶25	3656
Sun, H. A. Pace 7-B, (637.45-ac)	9700	3737
Texokana Oil Co., T. O. Wright 4 (8-ac)	5500	3704
Texas Co., W. W. Henry 17 (229½-ac)	7200	3634
R. H. Vise et al, W. O. Alford-Shell 3 (120-ac)	9000	3846
KILGORE AREA—		
Arkansas F. O. Co., Hughey-Ross 15 (220-ac)	6000	3574
Blue Star Oil Co., Sabine River 6-N	2500	3544
Empire G&F Co., A. A. Lockhart 5 (33¼-ac)	9200	3688
A. A. Lockhart 8 (33¼-ac)	9000	3590
M. T. Flanagan Prod. Co., W. B. Walker-Tidal 2 (91.3-ac)	5000	3572
Galvez Oil Corp., M. T. Cole 8 (40-ac)	3500	3560
Gulf, C. Brown 29 (254.65-ac)	7000	3555
C. E. Christian 9 (91.97-ac)	8600	3720
Humble, L. D. Crim 110 (906.98-ac)	10,000	3635
Invincible Oil Co., Weiss 22 (22.65-ac)	12,000	3588
T. A. Johnston & John Owens, M. T. Cole 7-C (29.73-ac)	11,500	3525
J. S. King et al, King 1 (1-ac)	10,000	3572
Root & Rhodes Oil Co., Adkins-Densby 2	5500	3676
Salmon Oil Co., Martin-Koberg 4 (25-ac)	6500	3706
Shell, J. A. Knowles 8 (65-ac)	7000	3657
Shiloh Oil Co., A. A. Lockhart 1 (2-ac)	9000	3679
Sinclair Prairie, M. Kennedy 6-B (52-ac)	2500	3671
H. P. Smead et al, C. E. Christian 1 (3-ac)	5500	3666
LONGVIEW AREA—		
Arkansas Fuel, J. C. McKinley 5-B (69-ac)	10,500	3575
Atlantic, H. W. Moyers 15 (128-ac)	10,000	3572
Bay Oil Corp., Wm. Wheeler 7 (35½-ac)	7500	3668
Black-Collins-Stroube, J. Spurrier 6 (30-ac)	9300	3555
Bonds-Dillard Drlg. Corp., D. M. Meyer 7 (41-ac)	12,000	3570
Empire G&F Co., J. C. Bumpas 12 (57.85-ac)	9000	3560
J. T. Jeter 9 (123-ac)	8800	3607
Fain-McGaha Oil Corp., E. W. Clements 7 (50-ac)	9200	3614
F-H-E Oil Co., R. Christian 7 (61-ac)	8100	3648
J. Flemister 6 (45-ac)	9000	3640
Foundation Oil Co., L. Willis 5 (16-ac)	9500	3635
Gen'l Crude Oil Co., R. C. Barnswell 8 (50-ac)	8400	3516
Humble, H. M. Lawrence 16 (164.7-ac)	6500	3677
W. C. Mackey 13 (198½-ac)	5500	3586
G. W. Willingham 9 (100.6-ac)	8400	3702
Lacy Pet. Co., T. D. Anderson 5 (13-ac)	9500	3657
C. H. Lyons & J. K. Wadley, R. R. Cocke 2 (65-ac)	8700	3650
Magnolia, R. A. Adkins 12 (100-ac)	750	3728
L. J. Everett 18 (166.96-ac)	9700	3644
A. J. Green 7 (41.1-ac)	8500	3590
Peckham Oil Co., T. Wells 7 (40-ac)	9000	3727
B. F. Phillips et al, Willie Starr 3 (30-ac)	8800	3618
Loyce Phillips et al, L. Phillips 1 (7/10-ac)	12,000	3659
Rowan-Nichols Oil Co., B. C. Todd 6-A (28-ac)	12,000	3570
Sabinas Oil Corp., T. M. Collins 3-B (25-ac)	9700	3704

Company, Well and Location	Init. Prod. Bbls.	Depth
Selby O&G Co.-Lewis Prod. Co.,		
Snavely 8-A (214½-ac)	8800	3586
Snavely 1-D (105.8-ac)	8500	3593
Shell, G. W. Richey 16 (169.4-ac)	7800	3619
Showers & W. A. Moncrief, J. M. Christian 2 (4.33-ac)	9600	3574
Sinclair Prairie, Irvin Isley 9 (100-ac)	11,000	3545
E. L. Smith Oil Co., E. A. Watts 3 (100-ac)	4500	3653
R. E. Smith, Rec., Hamil Drlg. Co. & Smith, Everetts-Hill 3 (11-ac)	10,500	3512
Stanolind, Geo. Jones-Amada 3 (20-ac)	9200	3694
Tide Water Oil Co., B. A. Skipper 2 (50-ac)	*	3579
United East & West Oil Co., Walker 1	150	3615
Yount-Lee., W. E. Bolton 1 (53.73-ac)	*	3611
Fannie Smith 7 (73½-ac)	9000	3596
Miscellaneous Completions		
CAYUGA FIELD (Anderson County)—		
Tide Water-Texas Seaboard, N. N. Wills 2	3500	4113
VAN FIELD—		
Humble, S. R. Ray 3 (111-ac)	30	1257
Pure Oil Co., W. F. Swain 4 (33.06-ac)	10,000	2958
O. L. & L. L. Swain 5 (48.2-ac)	50	2947
John D. Wrather et al, G. W. Carter 1-A (10-ac)	600	2950
Wildcats		
HENDERSON COUNTY—		
John R. Black-Darby-Stanolind, C. B. Meredith 1	*	4235
HUNT COUNTY—		
J. H. Waggoner O&G Co., J. R. Love 1	*	3385
SMITH COUNTY—		
Texas Trading Co., O. T. Ray 1	*	5194

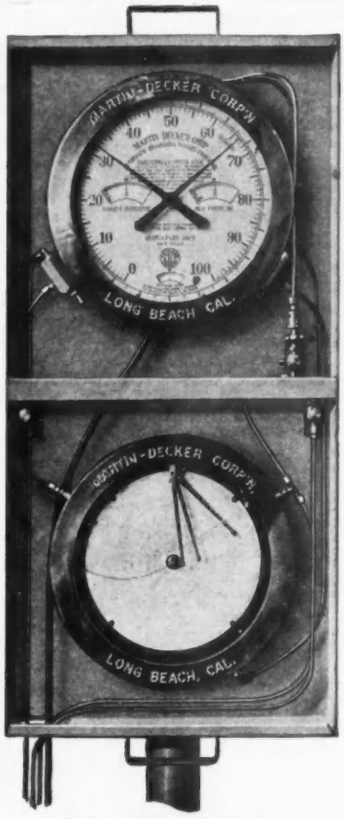
*Failures; †Junked; ¶Million cu. ft. gas.

North Cowden Field Extended to South

San Angelo, Texas.—The North Cowden field, Ector County, was extended nearly three-quarters of a mile to the south last week when Landreth Production Corporation's T. P. Land Trust 1-A, NEc NW Section 3, Block 43, T&P Ry. Survey, T-1-S, developed a natural flow of 300 barrels of 32.5 gravity oil and 3,000,000 cubic feet of gas daily while drilling in lime at 4170 feet. The main pay was logged at 4120-4155 feet, although more saturated lime is due to penetrating about 100 feet more of the lime. Landreth Production Company, a Fort Worth concern, is the second largest lease and royalty owner in the field, and is drilling below 3100 feet on T. P. Land Trust 1-B, located in NWc SW of the same section. A third test is being drilled in the north portion of the field.

This extension well for the North Cowden field forces an east offset for Continental Oil Company, and Stanolind Oil & Gas Company, owner of the discovery well and block, will then have two north offsets to drill. Operators in this field are abiding by their earlier promises to limit development to one well to 40-acres, although work has not been completed in preparing the plan of development required of new pools by the oil administration.

Andrews County broke into the limelight with two producers. In the southern part of the county, the Fuhrman Petroleum Corporation's W. H. Boner 1-B, C NE Section 25, Block A-43, P. S. L. Survey, and near previous completions by the company on a wildcat block, gauged 265 barrels oil on natural flow in 24 hours while drilling below 4455 feet. It began showing oil saturated lime at 4215 feet, with a big increase in production at 4433-4438 feet. In the old Deep Rock area, Humble Oil & Refining Company's J. W. Kuykendall 1, NWc SE Section 24, Block A-46, P. S. L. Survey, bailed 1½ barrels of oil per hour from lime at 4350-4500 feet, and will be given a shot of nitro. Humble Oil & Refining Company's R. M. Means 1, northeast Andrews County wildcat, was preparing to resume drilling with rotary at 3150 feet after halting to thicken drilling



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fluid. This test lubricated off a heavy flow of dry gas at 2957 feet.

The Scarborough area, north Winkler County, yielded an unusually large producer when Colonial Oil Company's W. F. Scarborough-Llano 4, located 990 feet from the north and east lines of Section 18, Block 74, P. S. L. Survey, flowed 890 barrels natural from sandy-lime at 2880-2890 feet. Sid W. Richardson, Fort Worth operator, is running six rigs on various leases in the field, and has locations for a like number.

Plugging orders are expected to be issued shortly on Humble Oil & Refining Company's White-Baker 1, Pecos County wildcat trying for production in the Ordovician lime zone, as it is coring in lime and chat at 9650 feet with no indications of oil or gas saturation. The hole was reduced to 6¼-inch at 9611 feet. It topped the first Ordovician section at 8040 feet, and top of the Ellenberger member, probable producing horizon, at 9385 feet, with an elevation of 2715 feet. No water has been reported showing in any of the routine formation tests taken since the 8500-foot level.

Gulf Production Company's J. T. McElroy 103, Upton County, deepest test in the United States outside of California, was coring in lime and chert at 10,260 feet, and plans are to continue on to the Ellenberger section of the Ordovician, which was topped at 10,167 feet, unless mechanical trouble develops. No important mishaps have occurred in drilling this test. It cuts a 7⅞-inch hole with the core barrel, then reams to 9⅞-inch.

Simms Oil Company, principal owner of leases in the west extension of production in Glasscock County, added to its holdings through the purchase of H. O. Wooten's Will P. Edwards-Glasscock 20-acre lease and 32-barrel pumper in Section 18, Block 33, T-2-S, for a cash consideration of $15,000. This well was originally completed by Glasscock Brothers et al at a depth of 2491 feet after passing up the 2100-foot lime horizon. Simms Oil Company proposes to rip the casing to try and produce from the upper lime. W. P. Luse Petroleum Company, Dallas, has entered this area with a drilling obligation through the purchase of Noel T. Lawson et al's west 40-acres of NW Section 20, Block 33, T-2-S, for $200 per acre cash and an additional $200 per acre payable from production.

Materials are being moved in by the Cordova Union Oil Corporation, Fort Worth, to drill a wildcat in Eastern Crane County and southwest of the Gulf-McElroy field, on the Jax Cowden ranch. Location was made in NEc Section 13, Block "X", CCSD&RGNG Survey, near center of a 2000-acre block. Jax Cowden retained an offset 80-acre lease, and holds a quarter interest in the well and site.

The Hawley pool, southeastern Jones County, yielded its largest producer last week when Condor Petroleum Company, Abilene, developed an initial flow of 600 barrels natural from sandy-shale at 1899-1908 feet in completing Henry Sayles 2, an east offset to the company's discovery well. The latter was drilled in NWc Lot 3, T&P Survey, Block 20, in December, 1932, and is still rated at 300 barrels capacity on proration schedules. This high gravity oil area was extended about 8500 feet to the northeast several weeks ago when Texas Inland Oil Company's J. E. Sellers 1, NWc of W. Delk Survey 241, swabbed and flowed 110 barrels natural from sandy-shale at 1745-1752 feet, with the hole bottomed in shale at 1754 feet. Humble Pipe Line Company is negotiating for well connections in the area.

Second Well Completed On Navarro Structure

Wichita Falls, Texas.—Rated as the second largest oil producer in the North Texas district at present, The Texas Company-Sun Oil Company's Johnson 4. Second oil strike made on their Navarro structure in western Foard County, gauged 80 barrels of high gravity oil per hour from the Canyon lime section at 3591 feet. It is located in NEc NW Section 36, Block "L," S.P. Ry. Survey, or about one quarter-mile northwest of their discovery well, completed last July rates at 3240 barrels daily at 3571 feet.

North Texas Completions Remain at Record Level

Wichita Falls, Texas. — Averaging about nine completions daily, the North Texas district yielded 62 producers and failures during the past week to become the second highest quota for the year. There was an aggregate of 7225 barrels of new production recorded by 40 pumping and flowing oil producers with Archer County predominating in total wells and volume of new production. The remainder of the completions consisted of one junked hole and 21 dry holes.

Completions in North Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
O. T. Anderson et al, W. M. Justice 6	125	1087
Bonner Oil Co., Abercrombie 8-E	25	1155
Bridwell Oil Co., Oil Inv. Co., 26-B, Sec. 125	20	1203
Oil Inv. Co. 27-B, Sec. 125	*	1469
Clyde W. Carey et al, Jas. Longley 1, Blk. 77	*	1250
Conoco, Falls 5-C, Blk. 16	165	1119
Conoco & Cullum, Falls 14, Blk. 16	320	1124
Fain-McGaha Oil Corp.-Humble, Logan 30	600	1142
Logan 31	*	1181
Olney F. Flynn et al, O'Donohoe 1, Blk. 111	*	1605
Golding & Cochran, J. L. Anderson 2, Blk. 19	250	1396
J. L. Anderson 3, Blk. 19	25	1335
G. A. Lauster 12, Sec. 2	35	1300
W. B. Hamilton et al, Abercrombie 29	60	1161
Cartwright 12	165	1146
Coffield 19	125	1184
Coffield 20	330	1194
W. L. Hawkins et al, H. V. Pearston 1, Blk. 104	*	1526
Krahenbuhl & Bradley, B. Carrington 3, Blk. 153	15	1175
A. E. Lynch et al, Andrews 1-A	45	985
J. H. Massie et al, Nichols 20, Sec. 30	5	1604
Nichols 1-B, Sec. 30	60	1602
Chas. Martin et al, E. Sheckell 3	*	1203
W. E. Maxson & Panhandle Ref. Co., Green 20-B	200	1092
Paul J. McIntyre et al, Anderson 1-A, Blk. 19	350	1416
Panhandle Ref. Co., Anderson 3, Blk. 18	300	1419
Anderson 4, Blk. 19	220	1427
Perkins-Cullum Oil Co., Falls-Hanzen 22, Blk. 14	480	1130
Falls-Hanzen 23, Blk. 14	500	1130
Falls 8-C, Blk. 6	175	1167
Perot Oil Corp., W. M. Justice 2	460	1105
Petroleum Producers Co., R. P. Griffith 1, Sec. 7	*	1282
Pois-Schultz-Weaver, Green 23	350	1166
Simms, A. P. Nichols 5, Sec. 30	65	1598
Jack Storey et al, R. E. Farmer 1, Blk. 17	*	1286
Texas Co., Logan 1	125	1154
Texho Oil Co., J. L. Anderson 4, Blk. 18	600	1425
JACK COUNTY—		
Moso, Inc., G. S. Nixon 1, Sec. 1	*	634
Petroleum Prod. Co., D. R. Sewell 2, Blk. 3	*	707
Dan E. Whatley et al, J. H. Shown 2	*	330
THROCKMORTON COUNTY—		
A. E. Michaels et al, J. C. Irvin 1	*	435
WICHITA COUNTY—		
Hammon & Heyser, Waggoner Bros. 12-B	*	1823
Lambert & Carlson, S. W. Wigley 1	*	1821
J. H. Massie et al, W. T. Waggoner 1, Sec. 33	40	1804
Peckham & Medders, Waggoner 1-B, Sec. 13	10	1858
L. P. Douglas 1, Sec. 14	*	2001
Staniforth & Ray, W. T. Waggoner 1-A, Sec. 34	*	1835
J. L. Swanner et al, Chilson 1, Blk. 4	*	1931
WILBARGER COUNTY—		
Consolidated Oil Co., Waggoner 1-T, Sec. 35	200	1896
Fain-McGaha Oil Corp., Waggoner 34-S, Sec. 24	*	2406
Staniforth & Ray, Waggoner 1-B, Sec. 34	*	1950
W. T. Waggoner, Jr., et al, Waggoner 4, Sec. 22	300	1890
Luther Webb et al, Waggoner 6-E, Sec. 22	250	1875
YOUNG COUNTY—		
Beavers-White-Duncan, Belknap-Remington 4, Sec. 2248	35	584
Cordova-Union Oil Corp., Graham 1	†	760
Iron Mt. Oil Co., E. P. Tatum 26, Sec. 1908	*	675
J. H. Kleiner et al, J. Graham 4, Sec. 2249	15	579
Kleiner-Hill & West, Larrimore 2	10	734
L. A. Long et al, C. K. Garvey 1-B, Sec. 1858	30	727
Starkey & Riggs, Remington 2, Sec. 2248	30	619
The Texas Co., N. Finch 4-B, Sec. 40	60	668
S. H. Wright et al, Sanders-Nail 1, Sec. 1997	*	560

*Failures; †Junked; ¶Million cu. ft. gas.

West Central Texas Has Short Completion List

Ranger, Texas.—Six producers completed in West Central Texas last week included an equal number of gas wells and oil producers, having an aggregate of 17,500,000 cubic feet of gas and 190 barrels of oil, respectively, on initial gauges. There were also five dry holes completed in the district during this period, making a total of 11 completions.

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
S. B. Owens et al, J. L. Kelly 1...	*	1315
CALLAHAN COUNTY—		
Drew Beams et al, Jackson 8.....	*	1296
Capitan Oil Co., Seale 1	*	930
COLEMAN COUNTY—		
A. R. Eppenauer Drl. Co., L. L. Shields 1	120	1882
EASTLAND COUNTY—		
Hickok Prod. & Dev. Co., C. Kleiner 1 .....¶9¼		3394
Hoffman & Page Co., C. M. McClelland 2 .....¶6¼		3721
PALO PINTO COUNTY—		
W. D. Conway et al, Carter 1	20	1402
Palo Pinto O&G Co., Disarwoon 1.	¶2	3050
PARKER COUNTY—		
R. F. Smith-R. T. Nail et al, Wren 1	*	652
SHACKELFORD COUNTY—		
Gilmer & McMurry-West Texas Roy. Corp., J. P. Morris 1	50	1596
J. L. McMurry et al, J. B. Mathes 1-B	*	1232

*Failures; †Junked; ¶Million cu. ft. gas.

Second Largest Yates Well Is on Small Tract

San Angelo, Texas.—An aggregate of 153,445 barrels of new production was added by West Texas last week through the completion of nine wells in seven counties.

The unusually large volume of new production was due to the completion of another prolific oil producer in the Yates field by Midland Producing Company (A. Fasken et al) in Fred Turner-Reid 1, located on a 1.985-acre vacancy lease, from saturated lime formation at 1174-1346 feet. This well gauged 5,067.48 barrels of pipe line oil on a 45-minute test flowing open. It is the second largest in the field.

Company, Well and Location	Init. Prod. Bbls.	Depth
ECTOR COUNTY—		
Humble, Eli Jones 2	170	3630
Landreth Prod. Corp.-Llano Oil Co., Holt 3	155	4339
Stanolind, E. F. Cowden 3	315	4172
GLASSCOCK COUNTY—		
Simms Oil Co., W. P. Edwards 1..	930	2216
HOWARD COUNTY—		
Sam Yingling et al, L. C. Denman-Empire 1	125	2818
JONES COUNTY—		
Texas Inland Oil Co., J. E. Sellers 1	110	1754
PECOS COUNTY—Yates Field—		
Midland Prod. Co. (A. Fasken), Turner-Reid 1 150,000		1346
WARD COUNTY—		
Gulf, Hutchings 28	750	2760
WINKLER COUNTY—		
Colonial Oil Co., W. F. Scarborough-Llano 4	890	2890

*Failures; †Junked; ¶Million cu. ft. gas.

Six Panhandle Wells All Oil Producers

Pampa, Texas.—The Texas Panhandle yielded six oil completions during the past week, with a combined initial output of 2370 barrels daily.

Indian Territory Illuminating Oil Company's A. Smith 3, NWc SE Section 139, Block 3, I&GN Ry. Survey, scored an unusually large producer for the lime horizon area in western Gray County by swabbing 800 barrels initial after a shot of 300 quarts of nitro at 3160-3223 feet. It has a total depth of 3255 feet.

Detailed list of completions follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Empire G&F Co., A. J. Cullers 1...	250	3255
I.T.I.O., A. Smith 3	800	3255
HUTCHINSON COUNTY—		
Phillips et al, Tom Lewis 1.....	500	2977
Phillips Pet. Co., Perkins-Hamilton 1	20	2847
Harry Stekoll et al, G. A. Whittenburg 2-E	100	3060
WHEELER COUNTY—		
Mid-Continent, J. S. Carwile 5.....	700	2330

*Failures; †Junked; ¶Million cu. ft. gas.

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Second Try at Angelita Finds New Conditions

San Antonio, Texas.—Circle W. Oil Company's (Josey), E. H. Welder 1, second well to be drilled in the new Angelita field, San Patricio County, has set casing and is waiting on cement. The well, however, offers a rather odd situation. It had the sand at 5360-78 feet, made a drill stem test, which tested six fourbles of oil, 2½ fourbles salt water and 575 pounds pressure in 16 minutes.

The well is in the east corner of Tract 5, Villareal Survey, 1500 feet west and north of the discovery well.

Figuring elevation, the new well is bottomed approximately two feet higher than the discovery well. The discovery well did not show any salt water, while the new well is said to have shown a soggy sand in the last four feet of the core, which would mean that it is in the water six feet higher than the discovery well.

One explanation is the possibility of a crooked hole in the discovery well. This being the case, it would be 10 or 12 feet off.

Two other tests in the area hold interest. C. B. Bunte got the top of the Discorbis in C. C. Smith 1, Armstrong Survey, at 4201 feet, gas sand at 4366 feet and is drilling below 4450 feet. It is three miles northeast of the discovery well. J. C. Means has made a location 990 feet from the north line and 330 feet from the west line of the J. W. Paup Survey, 1½ miles northeast of the town of Angelita.

Up in the Sinton field, Plymouth Oil Company has spudded Welder 2-A, east of the discovery well, and Heep Oil Corporation is moving in on the Welder home property at Sinton.

Kings Ranch Test Is Preparing to Set Casing

San Antonio, Texas.—Nutex Oil Company is moving in casing to be set in King 1, NE Section 24, Richard King Farm Lots, King Ranch field of Western Nueces County. The well is at a total depth of 6021 feet, but casing will be set just above a sand encountered at 5531 feet.

The well showed several interesting sands, but drilled through them after drill stem tests failed to develop anything of material importance. After reaching its total depth of 6021 feet, an electrical-formation testing device was run, showing three promising sands, tops being 4030 feet, 5439 feet and 5531 feet. Casing is being set on the last sand and the well will be plugged back.

Two gas wells already have been completed in the field, at about 1500 feet shallower depth than the oil showing. The majority of the acreage is held by John F. Camp (Nutex), and Stanolind Oil & Gas Company.

Bee County Gas Well Starts Spraying Oil

San Antonio, Texas.—Caesar Oil Company's Pullen 1, F. Lewis Survey, northern Bee County, recently completed as a large gasser at 3007-34 feet, has started spraying considerable 35.2 gravity oil. A separator will be installed and a production test made. The well was expected to make an oil well when first drilled in, the sand showing considerable saturation. Its pressure, however, would not allow the oil to flow. The well is providing fuel for several tests drilling in the immediate vicinity and the continuous flow may have helped to bring about the oil production.

The well is located 2½ miles southwest of Dash Production Company's Ruhmann 1, discovery well of the Burnell area, and is the only other well drilled in the field to date.

Caesar Oil Company's R. E. Miller 1, a half-mile southwest of the Pullen well, is down 1500 feet and drilling, while Houston Oil Company's Miller 1, due west offset to the same well, is resuming drilling below 550 feet of surface casing. Dash Production Company has started Ruhmann 5BB, a half-mile east of the Pullen well. Caesar Oil Company has derricks up for a couple more tests in the area to be started immediately.

Raisin Field May Yet Pay Off from 2800 Feet

San Antonio, Texas. — Raisin field, Victoria County, apparently is going to pay off in the 2800-foot sand, where several wells have had good showings, but have not been successfully completed.

Petrol Corporation's John Machalec 1, south end of 125-acre tract in the R. Manchola Grant, showed 11 joints of 24 gravity oil in 20 minutes on a drill stem test with ¼ choke on bottom and 5/16 choke top from a sand at 2835-41 feet and has set casing at 2828 feet. A slight shale break occurred at 2839 feet.

San Antonio, Texas.—Bonnie View, Refugio County's highly touted wildcat prospect, again sprung into the spotlight last week when J. W. Heard and Holland Oil Company's Peck 1 cored a sand at 5183-93 feet, which showed saturation. A drill stem test is being made. The well is 360 feet out of the northwest corner of the SW Section 24, and is 200 feet east of Dixon et al's Peck 1, an old dry hole at 4012 feet.

Webb County Has Show At District Record Depth

San Antonio, Texas.—United Production Company was late in the week completing its deep prospect in the Cole district, Webb County, just south of the town of Bruni. The well is Bruni Estate 1 and has a sand at 3410-18 feet, which if completed as a producer will be one of the deepest producers in the Mirando district.

A drill stem test, only partly successful, showed eight joints of oil and six joints of mud. The oil was 42 gravity. Casing was set and the well is now in process of completion.

It is 150 feet from the northeast line and 94 feet from the northwest line of Block 42, Section 8, Adams Subdivision of the Arispe Grant.

Allen & Morris recently completed a 2900-foot gasser a half-mile to the northwest.

San Antonio, Texas.—A couple of interests are starting in Caldwell County in an attempt to extend old Edwards lime fields. Floyd C. Dodson's Smith Estate 1, S. Shupe Survey 267, northeast of Luling field, is down 560 feet, while H. S. Morgan is moving in for Blackwell 1, J. R. Rains Survey, a half-mile northeast of Salt Flats.

Vanderbilt Well Tested For Guide for Development

San Antonio, Texas. — Encino Gas Company's Toney 1, discovery producer in the Vanderbilt field, Jackson County, was being given various production tests, including the gauging of bottom hole pressure, June 1. These tests were being conducted by engineers in the interest of the railroad commission, owners of the well and for major companies holding the majority of the close in acreage. The results of these tests likely will have an important bearing on the attitude of companies in planning their development program as well as on the commission in making allowables, spacing, etc.

The field is now confronted with a townsite derrick crowding threat. A number of permits have been applied for on lots as small as 50 by 174 feet, but in each case, they have been rejected by the railroad commission. That is, the rejection is for the time being and may be allowed after the next hearing in July. Just what will be done along this score, is not known, but the Encino organization, controlling the majority of the leases in the townsite, has suggested a pooling of acreage in the case of these small tracts. In any event, it may bring about a court fight. If the railroad commission can deny permits on townlots

and force land owners and lease holders to pool acreage into 20-acre units to secure permits, and can make this ruling stand up under court action, operators can look forward to a reasonable and sane development campaign. Otherwise, it likely will be another Refugio townsite boom with a number of gas blow outs and craters and possibly an onrush of salt water.

The discovery well is still maintaining its flow of slightly more than 500 barrels of pipe line oil through ¼-inch choke daily. A slight bit of muddy water (not salty) comes with the fluid, but its percentage does not exceed 1/3 of 1 percent.

South Texas Has Routine List of Completions

San Antonio, Texas.—The usual run of completions was reported in the South Texas district during the week. They are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Cole Pet. Co., Cole 5, Blk 29, R. Gage Sur	*	1884
BEXAR COUNTY—		
Eckert & Son, Mrs. J. Stanfield 1, Montaya Sur, 475 ft n & w l of tr	*	860
DUVAL COUNTY—		
Central Prod., Inc., Johnson-Tuck 12, Sec 42	744	2289
Cox & Hamon, State 13, Sec 60 . . .	2112	2229
Eagle Hill Oil Corp., J. R. Foster 3-B, Sec 206	¶10-25	1486
Magnolia, Bishop-Duval, Sec 59 . . .	¶10	2228
J. W. Riley 6, Sec 45	144	2256
Leffler 1, Sec 47	¶10	2273
R. R. Pharr, DCRC 2, Sec 363	240	2266
Reed & McKay, State 9, Sec 60	480	2282
Trapshooter Reilly O&R Co., C. W. Hahl 5, Sec 250	*	2336
Reynosa Oil Co., Duval Ranch 8-A, Sec 362	384	2269
Sun, Weiderkehr 61, Sec 359	480	2250
Texas, Duval 9, Sec 362	144	2319
GUADALUPE COUNTY—		
J. E. Clark et al, Howell 1, 1950 ft nl & 200 ft wl of tr, Jacob Darst Sur	*	2890
Holderfield et al, Reed 1, 150 ft nel & sel of 139.5 ac tr, Wm. Hunter Sur No. 32	*	2225
A. Seideman, Seideman 1, 280 ft nel & 470 ft wnl subd 110, Antonio Maria Esnaurrizer Sur No. 11	*	2955
KARNES COUNTY—		
Houston, Niehaus 1-B, E. Talley Sur	650	3644
NUECES COUNTY—		
Petrol Corp., V. Bluntzer 1, JVL de Herrera Sur, 2200 ft s & e l 639 ac lse	*	5831
REFUGIO COUNTY—		
D. D. Oil Co.'s F. V. W. Heard 1, Lot 14, Refugio town lots	50	3638
Humble, Fannie Heard 4, M. J. Ximenes Sur	100	4393
Tivoli O&G Co., G. W. Bissett 1, 1750 ft wl & 7000 ft sl John Crockett Sur	*	6020
STARR COUNTY—		
Smithtex Oil Co., SCCC 1, 330 ft sl & wl Blk 20, por 88-89, Anc Juris of Carm.	¶20	2478
Sun, Guarra 7-B, 1600 ft sw No. 6-b, Cuevitas Gr, PB 2049	¶6	2447
VICTORIA COUNTY—		
Humble's M. V. O'Conner 14, 466 ft s along el from ne cor C. B. Amery 228-ac tr, thence 1399 ft e at rt angles	*	3336

*Failures; †Junked; ¶Million cu. ft. gas.

Calhoun County Test Plans 8500 Feet

San Antonio, Texas.—The deepest planned test ever to be drilled in the South Texas district is now under way in Calhoun County. It is Continental Oil Company's American National Realty Company 1, which was at 780 feet late in the week, headed for 8500 feet. A string of 205 feet of 18⅝-inch casing has been cemented.

The well is on a 30,000-acre block and is nine miles southeast of Seadrift and between that town and Port O'Conner. It is at C NE Section 6, Block C.

One other well has been drilled to a lower level in South Texas, the depth being 9131 feet, but it was drilled deeper from a producing level at 5200 feet.

Southwest Oil Corporation's E. H. Welder 1-A, Cuadrillo Irrigation Survey, is coring at 6320 feet, and likely will go to 7000 feet before abandoning, although the definite depth has not been announced. Same company is drilling at 2435 feet in E. H. Welder 1-B. Both are Calhoun County wildcats.

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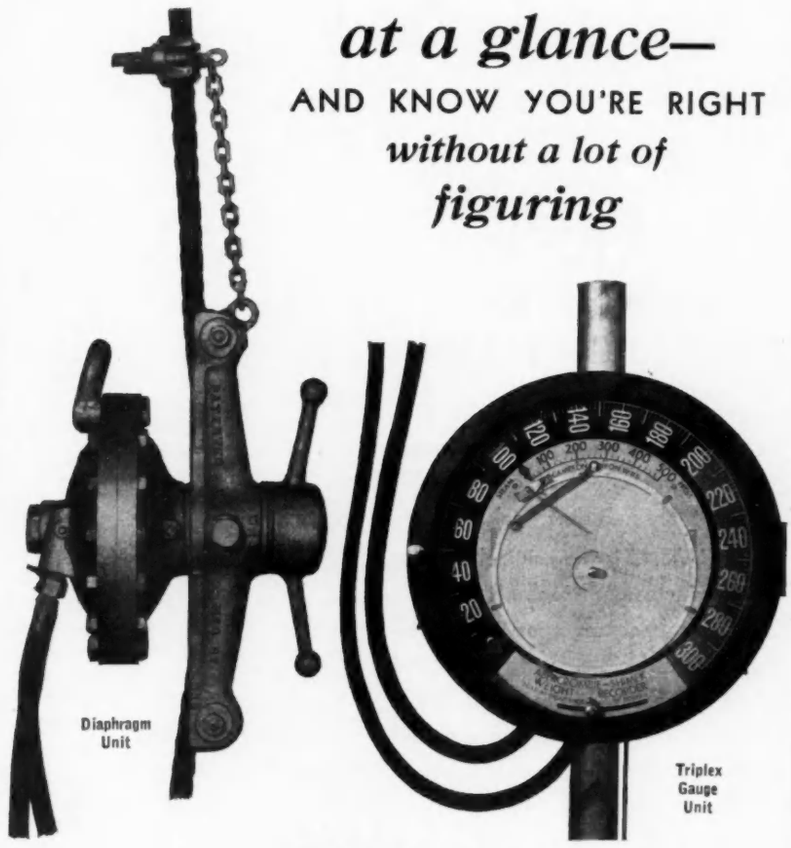

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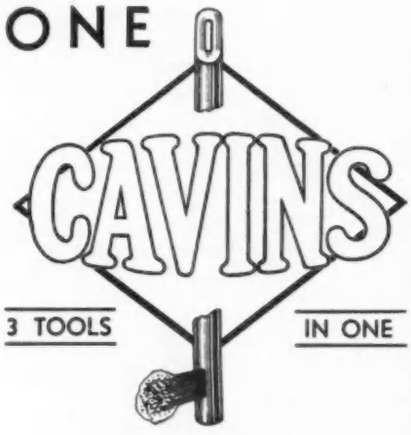

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Splendora Wildcat Tops Cockfield at 5646 Feet

Houston.—Humble Oil & Refining Company's Texas Long Leaf Lumber Company 1, Walker School Land Survey, 8000 feet north of Steen Drilling Company's well in the Splendora district, topped the Cockfield at 5646 feet and sand was cored from 5725 to 5729 feet, with no odor of oil or gas. Massilina Pratti was topped at 4700 feet with an elevation of 144 feet. Hockleyensis top was reported at 4822 feet. On the Cockfield marker the Humble Oil & Refining Company's well was running approximately 121 feet higher than the Steen Drilling Company's well, which topped this formation at 5759 feet, but the well is running about 20 feet higher than the latter's well, considering a normal dip in the Steen Drilling Company's well. On the Hockleyensis marker, Humble Oil & Refining Company's well was running 94 feet higher than the Steen Drilling Company's well.

Steen Drilling Company's Texas Long Leaf Lumber Company 1, also in the Walker School Land Survey, plugged back to 5840 feet and ran casing late last week. The company reports that it will make a gas well out of the test from sands found from 5816 to 5824 feet. The well has made some distillate which was free from water. Late last week several drill stem tests were made. From 6013 to 6021 feet a sand was found, and from 6007 to 6021 feet the well showed 32 fourbles of salt water. A hard sand was found from 5979 to 5983 feet and several drill stem tests were attempted, but the tester failed to seat. The company cored ahead to 6041 feet and then plugged back to 5840 feet where the wildcat will be completed as a gas well. This well topped the Cockfield at 5759 feet and Hockleyensis at 4916 feet, with an elevation of 131 feet.

Smith & Cooper's Post 1, in the D. Roper Survey, Montgomery County, found a gas sand from 3693 feet to 3704 feet. Top of the Cockfield was reported at 3417 feet. On a drill stem test from 3694 to 3705 feet the well showed 40 fourbles of salt water with a large gas pressure in 25 minutes.

Deering & Frazier's L. Hicks 1, T. Taylor Survey, was still rigged up and shut down due to shortage of water.

In Liberty County, Harry Sample's Security Trust Company 1, six miles west and a little north toward Cleveland, J. Faulk Survey, was coring ahead below 5825 feet. Massilina Pratti was topped at 5552 feet and the Hockleyensis at 5674 feet, with an elevation of 123 feet. This well is considered running low. Top of the Discorbis was 3281 feet, Heterostegina 3308, and Vicksburg 4600 feet.

Liberty Independent Oil Company's Neal 1, 17 miles north of Liberty, S. Strong Survey, set nine-inch casing at 977 feet and is now washing at 952 feet, bottom of the hole being 1018 feet.

Gulf Production Company's Kirby C-2 at Cleveland was still washing and reaming at 8735 feet and Kirby C-4 is a location. Gulf Production Company is reported to be buying the block south of Wilcox Oil & Gas Company's well, paying as high as $7.50 per acre for leases.

In Waller County, Amerada Oil Company and Stanolind Oil & Gas Company's Manor 1, was drilling below 6363 feet at the close of the week after topping the Cockfield at 6340 feet, with an elevation of 187 feet. Hockleyensis was topped from 5378 to 5402 feet. The well is considered by many as running low. Caddell was topped at 6445 feet. The well is now coring ahead.

Capps & Sloane's Vaughn 1, in the J. McFarland Survey, was drilling below 2800 feet at the end of the past week.

Turnbull & Irwin's Foster Lumber Company 1, northwest of the Cleveland area and in San Jacinto County, W. Dobie Survey, was drilling below 1900 feet on June 1.

In Harris County, W. U. Paul House's 1, M. Magruder Survey, set 10-inch casing at 590 feet and is drilling below 750 feet.

Alpha Petroleum Company's Cartwright 1 (was Louis Franklin), in Jasper County, has spudded.

Manvel Field Setting Fast Drilling Pace

Houston.—Another producer was added last week to the list of completions in the Manvel field, Brazoria County. The Texas Company's Helene J. Wray 1, northeast of Burton Drilling Company's Parker 1, and on the east flank of the dome came in at the rate of 470 barrels of pipe line oil per day. The oil was 26.6 gravity with a temperature of 92 degrees. The flow was through a quarter-inch choke from 5140 feet, and showed 4.5 percent washwater. The sand was found from 5124 to 5140 feet. Morrison 1, also on the east flank of the field, took a core from 4753 to 4756 feet which showed water. From 4771 to 4175 and from 4809 to 4813 feet sand with no shows was recovered. From 4838 to 4841 feet sands

with no shows were also cored. The hole was reamed from 4778 to 4814 feet and the well was found to be off vertical two degrees at 4838 feet.

On the southwest flank of the field and a third of a mile west of the Scopal well, Boff 1 was coring ahead below 7474 feet late last week.

West Columbia Deep Well Given Separate Allowable

Austin, Tex.—West Columbia wells producing from the new deep sand were given an allowable separate from that of the rest of the field in an order issued by the Texas Railroad Commission effective June 1.

The entire allocation of 360 barrels was turned to Miramar Oil Corporation's Hogg No. 2, the only well producing from the deep sand. The order provides, however, that other wells completed in this sand shall share in this allowance.

The remainder of the field has an allocation of 2540 barrels to be distributed among the wells producing from shallower sands.

The order includes a rule to require Hogg No. 2 to be reconditioned if the operators find that it cannot be cut back to a 360 barrel allowance.

Deep Louisiana Drilling Assumes Larger Proportions

Lake Charles, La.—A deep drilling campaign has been started in the new Bosco field, Acadia Parish. Superior Oil Company of California's six new locations that were made less than four weeks ago are either ready to spud or have started drilling. One of the six new wells was started in Acadia Parish and one in St. Landry Parish.

Leo Kahn 1, Section 35-8s-3e, is now drilling below 1567 feet in gumbo. This is the only test in Acadia Parish that started drilling late last week. The remaining four were rigging up to start the first of this week. In St. Landry Parish, Marcellow Savoil 1, Section 27-8s-3e, was drilling in sand at 300 feet at the close of last week, while U. T. Iseringhousen 1, in the same parish, was preparing to start drilling operations.

All of the new wells are located within two miles of the discovery well, Hernandez 1, which came in for 800 barrels of oil from sands found from 7845 to 7850 feet. The well is now producing between 1100 and 1300 barrels of oil per day through eight perforated holes six inches apart, with a tubing pressure of 1300 pounds.

Less than half a mile to the south of the discovery well, Standard Oil Company of Kansas' J. Nouton 1, was ready to spud at the close of last week. The company is reported to have obtained a 45-acre strip in the large block that Superior Oil Company sub-leased from Pure Oil Company.

Humble Oil & Refining Company and Shell Petroleum Corporation have not yet made location in the new field, but it is reported that the former will make a location for Joseph Berb 1, Section 21, about 1½ miles north and west of the discovery well, on the company's 100-acre block. Shell Petroleum Corporation is reported to be making location for Eliabautrout 1, in Section 22, 1½ miles north of the producer.

Due to expiration dates on some of the Superior Oil Company's leases, the company has started a fast drilling campaign.

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The company has approximately 7000 acres leased in this area and the leases are reported to expire about the middle of next year.

It is understood that Superior Oil Company was to stand the cost of drilling the first well in this area, and Pure Oil Company is to pay half of the cost of drilling the next six wells out of its half of the oil. Pure Oil Company worked up this large block several years ago and now retains some interest. The Bosco area is on a geophysical prospect.

Magnolia Petroleum Company is reported to have made a location near the discovery well but this report has never been confirmed by the company.

Geologists think the discovery well is located on the flank of the new deep seated salt dome, and rapid development in all directions from the discovery well is to be expected. The deeper formations along the Louisiana Gulf Coast look more promising than ever before.

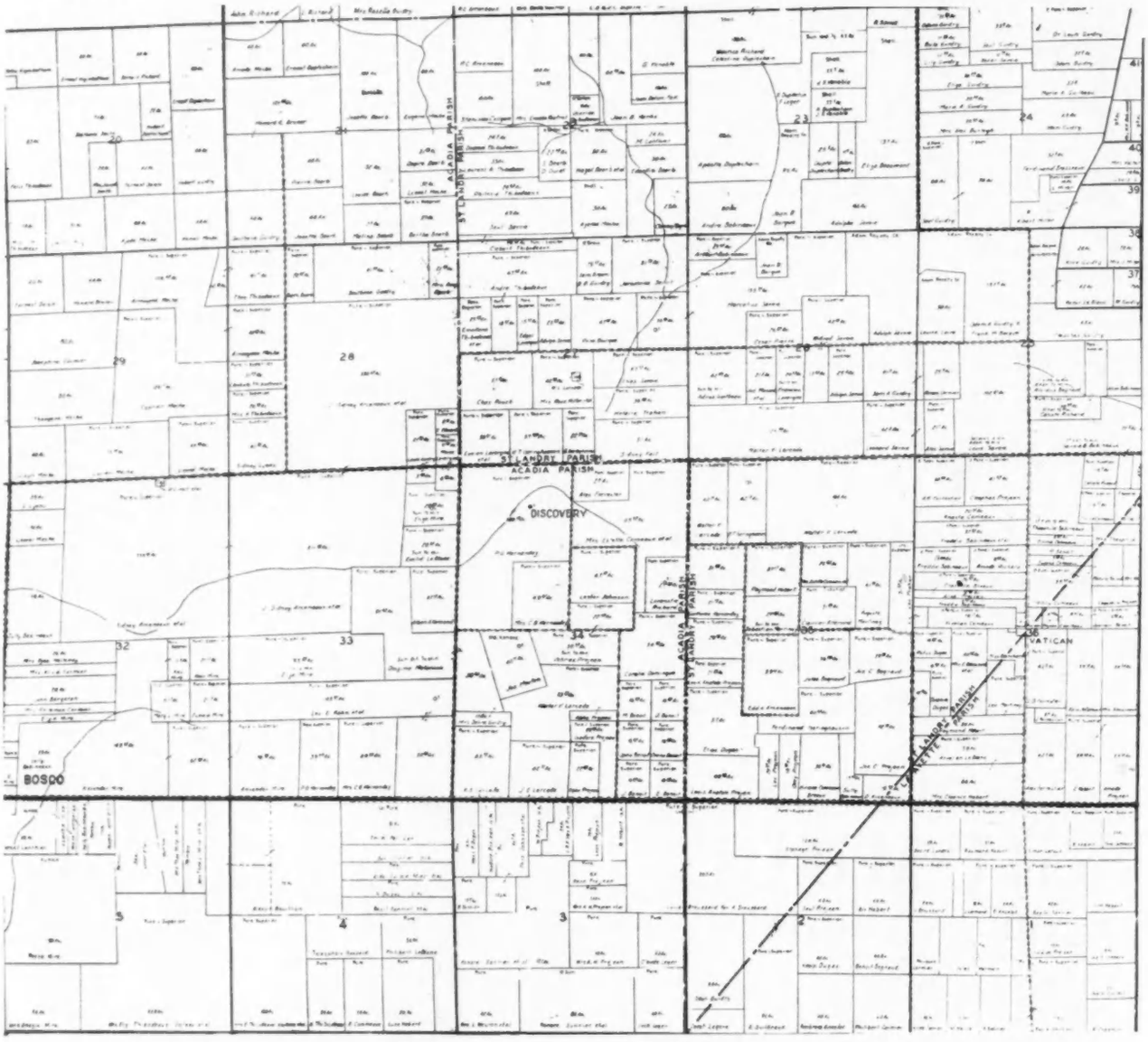
Shell Petroleum Corporation's Kratzer 1, discovery well in the new Roanake field, Jefferson Davis Parish, has been shut in for storage. This well was completed at 8682 feet with an initial flow of 50 barrels per hour. The company has made location for R. C. Jarnigan 1, east offset to the discovery well.

Humble Oil & Refining Company may soon announce a location in the Roanoke area.

Federal Enforcement Office Will Be Moved to Dallas

Washington, D. C.—Direction of all oil-code enforcement officers in Texas is to be centered at Dallas, to which point the force now at Tyler will be moved, it has been announced by the Oil Administrator following the return to Washington of Louis R. Glavis, chief of the bureau of investigation, from a trip to Texas to "put the wheels in motion" for the enforcement of all violators.

The trip, Mr. Ickes said, was "very satisfactory," and Glavis will return to Dallas within two weeks to make another survey of the situation.



Ownership map of the new, deep Bosco oil producing area in the eastern edge of Acadia Parish, Louisiana Gulf Coast. The recently completed discovery well, P. O. Hernandez 1 of Superior Oil Company of California and associates, is in NE Section 34-8s-3e. Locations for additional tests, several of which are already drilling, are indicated. This map is presented through courtesy of Gulf Coast Engineering Company, Houston, Texas.

Livingston Completions Show Higher Initial Flow

Houston. — In the Livingston field Polk County, two more producers have been added to a list of oil wells that has been none too impressive. Gem Oil Company completed its Davis Holmes 4, A. Viesca Survey, for 374 barrels of oil per day through a 7/64-inch choke. The company ran 2½-inch casing to 4323 feet and also set screen. Prior to this flow the well made 573 barrels per day through a quarter inch choke and was reported as the best well in the field. Sand was found from 4318 to 4330 feet and seven-inch casing was set at 4282 feet.

Reading & Bates' Davis Holmes 2, in the same survey, came in at the rate of 51 barrels the first four hours from 4360 feet through a half-inch choke. The oil showed 12 percent washwater. Screen was set and seven-inch casing was cemented at 4312 feet.

This well on a drill stem test from 4330 to 4360 feet flowed oil for eight minutes. The tester was open 10 minutes. Quarter inch choke was used on top and bottom. The producing sand was found from 4354 to 4360 feet.

Sunshine Area

J. Z. Werby's Wittfoth 1, mile north of the Livingston field and near the Sunshine area, A. Viesca Survey, made another drill stem test from 4065 to 4076 feet and recovered one joint of salt water, and mud through a 5/8-inch choke on top and a half-inch on bottom. Top of the Cockfield was at 4032 feet, and operenlina at 4017 feet.

Alpha Petroleum Company's Kirby & West B-1, 4000 feet southeast of No. 1, which was abandoned two weeks ago, was moving in rig and was reported to have spudded over the week end. The well is located in the G. S. Thomas Survey and is 3000 feet south of Dick Schwab's No. 2 gas well.

Gulf Coast Completions Have Lower Initial Yield

Houston.—Conroe again headed the completion list along the Texas Gulf Coast with three producers. Seventeen completions reported during the past week resulted in 10 flowing and pumping wells with an initial production of 7978 barrels of oil per day. Of the 17 completions, one was a gas well making 1,500,000 cubic feet gas per day and the remaining six wells failures.

Shell Petroleum Corporation's Howry 2, at Danbury was abandoned late last week at 6271 feet. Hall Edward's Peters 1, 11 miles southwest of Madisonville, was abandoned at 6235 feet. This important wildcat had a showing of oil from 5917 to 5927 feet.

Completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
BIG CREEK—		
Gulf Prod. Co., Davis 63	888	3908
CONROE—		
Gulf Coast Drilling Co., Keystone Mills 24	469	5089
Humble O&R. Co., Keystone Mills 29	2208	5124
So Tex Dev. Co., D-6	2136	5129
HULL—		
Houston Oil Co., Orgain 8	500	5099
LIVINGSTON—		
Gem Oil Co., Davis Holmes 4	374	4330
Reading & Bates, Davis Holmes 2	51	4360
LOUISE—		
Pure Oil Co., Lancaster 2	648	5147
MANVEL—		
The Texas Co., Helene J. Wray 1	470	5140
PIERCE JUNCTION —		
Hamil & Hamil, Gulf Fee Jones 1	234	3531
RACCOON BEND —		
Humble O&R Co., Hardy B-4	*	5000
TOMBALL—		
Humble O&R Co., Krug 3	¶1½	5636
Shell Pet. Corp., Baker 1	*	lcn.
Baker 2	*	lcn.
BRAZORIA COUNTY—		
Shell Pet. Corp., Howry 2, H&TB sur No. 15, Danbury	*	6211
MADISON COUNTY—		
Hall Edwards, L. M. Peters 1, 11 mi sw Madisonville, Mahala Wilkinson sur	*	6235
MONTGOMERY COUNTY—		
McElory Oil Co., Grogan 1, approx. 6 mi nw Goodwin, P. V. Hamblin sur	*	5001

Goose Creek Leads Harris County Fields in New Work

Houston. — Miramar Corporation completed Hughes 2 in the Goose Creek field, W. Scott Survey, for 500 barrels of 32.6 corrected gravity oil per day at 4551 feet. Tubing pressure was 640 pounds. The sands showed broken streaks of shale. This is the second well for the Miramar Corporation in the new sands at Goose Creek. Hughes 1, on the west side of the field, came in for 800 barrels a day from 4016 feet through a 3/8-inch choke but the gravity of the oil was different from that produced from Hughes 2, being a 27 gravity product.

Gulf Production Company's Tabb 17-A, the discovery well in this new sand, came in from 4500 feet making 1000 barrels per day through a half-inch choke, with a tubing pressure of 1000 pounds. Gravity of the oil was 27 degrees. Comparison of Tabb 17-A and Hughes 2, shows that the former produced 27 gravity oil from 4500 feet and the latter produced 32.6 gravity oil from 4551 feet, the two sands being only 51 feet part. Hughes 1, has now stopped flowing and has been put on the beam.

Edwards Drilling Company's Henzen 1 is now preparing to pump. This well is an east offset to Miramar Corporation's Hughes 1. J. Simmon's Mitchell 1, W. Scott Survey, on a drill stem test showed oil, salt water and gas from 4712 to 4760 feet. The tester was

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open 12 minutes and showed 1051 feet of oil.

Five miles north of the Goose Creek field, J. E. Seiber Trustee's Tyrell & Carth 1, A. Smith Survey, was drilling below 4770 feet with a showing of oil at 4772 feet.

In the old Pierce Junction field of Harris County, Hamil & Hamil's Gulf Fee Jones 1, on the B. & C. R. R. Survey came in late last week at the rate of 234 barrels of oil per day through a 3/16-inch choke from 3531 feet. The well is now making 150 barrels of oil per day.

Louisiana Coast Wells Have High Initial Flow

Lake Charles, La.—Of the nine completions reported along the Louisiana Gulf Coast during the past week, seven resulted in oil producers with an initial production of 10,046 barrels of pipe line oil per day.

Iowa field again lead the list with four good producers. Humble Oil & Refining Company's Long Bell Lumber Company 1, two miles southwest of Dry Creek, was abandoned at 9302 feet as the deepest wildcat along the Louisiana Gulf Coast.

The completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
DOG LAKE BAYOU—		
The Texas Co., State Dog Lake 10..	*	1783
IOWA—		
Barnsdall Oil Co., Caffal Implement 1	980	5977
Fontenot 5	140	6936
Magnolia Pet. Co., Wait 6	813	6917
Shell Pet. Corp., Tution 2	1641	6710
LEESVILLE—		
Lincoln Oil Co., State of La. 3	2500	3696
Viser 1	2400	3714
The Texas Co., L. L. E. Leesville 15	1572	3388
BEAUREGARD PARISH—		
Humble O&R Co., Long Bell Lbr. Co. 1, 2 mi sw of Dry Creek, Sec. 11-5s-7w	*	9302

*Failures; †Junked; ¶Million cu. ft. gas.

Four Tests Get Underway In Natchitoches Parish

Shreveport, La.—Playing a possible northeast "trend" of the Zwolle field in Sabine Parish, and in search of a pool that possibly feeds the chalk production in Zwolle, three tests are starting in Natchitoches Parish, which will go to 4000 feet or deeper, if production is not found above that level. Another 9000-acre block in that same general area has just been assembled and location made for a test.

Plummer & McDaniels of Houston, Texas, have spudded Lizzie Walmsley 1, SE SW Section 45-10-8w, location for which was announced a month ago, on an 8000-acre tract. This test will go to 4000 feet and is equipped to go to 7000 feet. The derrick is nine feet off the ground and control valves, etc., are under the derrick floor in a cellar. The derrick is 132 feet high, of steel construction.

Southwest of this block, Wilkins & Abraham have assembled a 9000-acre block and made location for Brown Lumber Company 1, NE SW Section 27-9n-9w.

Roy Raines et al have assembled a 5000-acre block and made location for Fee 1, located 330 feet north and east SWc Section 28-9n-10w, for a 4000-foot test. Derrick is up and rig is being installed. This location is five eighths of a mile southwest of W. M. Coates et al's Collins 1, in the same section, drilled three years ago in the town limits of Marthaville to 4095 feet in the Tokio or possibly lower Cretaceous which had a good oil show at 4039 feet and at 4095 feet. In this test Austin chalk was logged at 3718 feet and red shale from 3766 to 3779 feet. This test is 10 miles northeast of Zwolle production and seven miles southeast of the lone oil producer completed in Section 17-9n-11w, in the lower Cretaceous at 3400 feet by Langbridge Oil Company's Stephens 1, which was a 40-barrel producer and is still making a few barrels of oil, three years after completion.

The fourth test is repairing derrick after getting an oil show in 12 feet of sand at 1447-59 feet in the Wilcox, which formation at practically the same depth has had shows in various Zwolle tests and in several wildcats drilled in the general vicinity of the present test, which is J. B. Storey, Trustee's W. W. Page Estate 1, NE SE NW Section 18-8n-9w. The sand was logged immediately under three feet of cap rock. A drill stem test of the sand failed to show for production and operators were drilling ahead when derrick was pulled in.

Another Natchitoches Parish test, to the north of the other operations, was spudded last week in Missouri Drilling Company's Brown Lumber Company 1, SE SE Section 5-10n-10w, which will first make a thorough test of the 1100-foot horizon that had interesting oil shows in several nearby tests several years ago.

Shreveport Geologists Announce Field Trip

Shreveport, La.—The Shreveport Geological Society's annual field trip will be made this year to southeast Mississippi, probably early in September, according to G. D. Thomas, secretary-treasurer of the society. The trip was deferred due to high water in parts of the area to be visited for inspection of outcrops. The exact route to be followed will be mapped soon by a committee which will visit the area. The annual trip usually is made in June.

North Louisiana Cut to Benefit South End of State

Shreveport, La.—Dr. J. A. Shaw, director of the minerals division of the Louisiana Conservation Commission, who has charge of dividing Secretary of the Interior Ickes' 83,000-barrel federal allowable for Louisiana for the month of June, trimmed the allowable for North Louisiana from 26,100 barrels to 23,500 barrels and boosted South Louisiana to 59,500 barrels, an increase for the Gulf Coast area of 13,200 barrels.

Dr. Shaw did not issue allowables for any individual pools in North Louisiana and said that no wells during April and May in that part of the state was under proration and he believed the 23,500 barrels would take care of all needs but that an increase in allowable was very urgent in Gulf Coast fields.

The order makes the allocations by fields as follows:

North Louisiana	23,500
Bayou Choctaw	850
Black Bayou	1,450
Bosco field	750
Caillou Island	3,500
Cameron Meadows	1,950
Edgerly	150
Evangeline	800
Gueydan	350
East Hackberry	4,750
Iowa	15,000
Lake Barre	5,000
Leesville	10,000
Lake Washington	1,250
Lockport	1,850
Port Barre	2,000
Starks	750
Sulphur Mines	3,750
Sweet Lake	1,100
Vinton	3,400
White Castle	850
Total South Louisiana	59,500
Grand total	83,000

One Oil Well, One Gasser In North Louisiana

Shreveport, La. — One small gasser and one 400-barrel daily oil well were the only commercial wells among six completions last week in North Louisiana.

The gas well was a shallow test completed in the Blanchard field, Caddo Parish, in the Nacatosh at total depth of 933 feet, the well being completed after 2½ inch tubing was set on packer and perforated at the bottom. There were eight feet of sand. This field's main gas production is in the Tokio at 2700-2800 feet.

The oil producer was completed in the northeast offshoot of the Zwolle field, Sabine Parish, flowing and pumping 400 barrels of oil daily after acid was used in the chalk.

An attempt to find production in the

Spring Ridge field, Sabine Parish, where a single oil producer was completed at 3400 feet in lower Cretaceous three years ago ended in failure when D. D. Alexander abandoned H. T. Brown Lumber Company 1, SW SW Section 9-9n-11w, after a drill stem test at 3440-62 feet was dry.

Completions last week in North Louisiana follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH—		
W. O. Bliss, McDade 1, nw nw 2-20n-15w	*	1640
Producers-Pyramid Oil Co., W. P. Hammock 1, nw nw 3-18n-16w	¶1½	933
SABINE PARISH (Spring Ridge)—		
D. D. Alexander, H. T. Brown Estate 1, sw sw 9-9n-11w	*	3462
SABINE PARISH (Robeline)—		
Roy Raines et al, Beard 1, sw se 8-8n-10w	*	2682
SABINE PARISH (Zwolle)—		
Pelican Nat. Gas Co., La. Long Leaf Lbr. Co. 31, sw sw 29-8n-11w	400	2500
Ben F. Smith, Sabine Lbr. Co. 1, ne ne 12-7n-12w	*	2500

*Failures; †Junked; ¶Million cu. ft. gas.

Three New Operations in Southwest Arkansas

Texarkana, Ark.—Southwest Arkansas continued to hold the center of interest last week in that state, with announcement of three new locations in that part of the state, two in the Garland City field, Miller County, and one a wildcat location in La Fayette County, adjoining Miller to the east.

The two new Miller County locations are: Fitzwater et al's H. E. Beck 1, SWc NW SW Section 34-15-26, and C. E. Murdock's E. L. Beck 2, SE SE Section 33-15-26, on which derrick is up.

South of Lewisville, in La Fayette County, Earl F. Fox of Shreveport has blocked several thousand acres on which a wildcat was drilled several months ago and has made location for Coleman Brothers 1, 330 feet north and west SEc NW NE Section 36-16-25. A. F. Tarver of Shreveport has the drilling contract.

Besides these locations there continued to be much blocking of acreage in these two counties. Sam E. Wilson of El Dorado, Arkansas, has assembled a block between E. L. Young et al's R. M. Patterson 1, SE NE Section 5-19-28, in Miller County, and W. F. Lacey's Gibson 1, NW SW NW Section 30-19-27, and plans an early test. Root Refining Company is reported to have a half interest in this test.

A string of seven-inch casing has been secured for E. L. Young et al's R. M. Patterson 1, in which a sand reported to have shown oil was encountered several weeks ago, and this is being hauled to the test. It will be set without running of formation tester.

Benedum & Trees Oil Company is reported to have acquired an interest in J. K. Wadley et al's wildcat block in LaFayette County near Stamps.

In Lee County in east Arkansas, Arkansas-Louisiana Pipe Line Company is rigging up for E. McDonald 1, 1500 feet north and 370 feet east SWc Section 28-1n-4e, on a large wildcat block assembled recently, this block having been previously reported.

Texarkana, Ark.—Only one completion was recorded last week in Arkansas. This was a salt water hole, a quarter of a mile south of production in the Garland City field, Miller County.

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY (Garland City)		
Frank Roe, Olivet 1, ne ne se 4-16-26	*	2961

*Failures; †Junked; ¶Million cu. ft. gas.

Cranfill & Germany Have South Mississippi Blocks

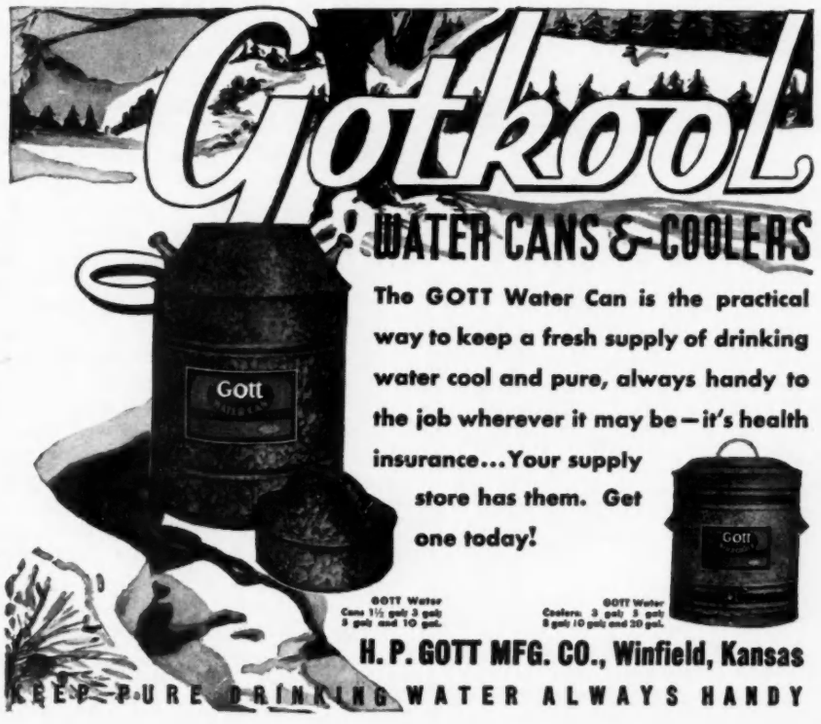
Jackson, Miss.—J. G. Hix, connected with Cranfill & Germany of Dallas, Texas, who has been leasing for some time in south Mississippi "in the trend" has completed assembling of two blocks, one consisting of approximately 25,000 acres in townships 3 and 4 north, range 15 and 16 west, Lamar County, with a drilling obligation to start by next September 1, and the other of about 40,000 acres in townships 3 and 4 north, ranges 8, 9 and 10 west in Greene and Perry Counties. The first rental on the latter block is due next January 1. A tentative location has been made in Section 33-4n-10w, Perry County.

Alabama Test Has Slight Gas Showing

Mobile, Ala.—Bill Rowe has assembled a 15,000-acre block of wildcat acreage in Pike County, Alabama, and made location in Section 36-10-21, for a 3000-foot test which should put him well into the Tuscaloosa as this formation should be picked up around 2600 feet. The surface formation is Ripley. The location is about six miles north of the town of Troy. Magnetometer work on the block was done recently by W. R. Julian of Shreveport, Louisiana.

Nothing but a slight show of gas was encountered in the sand logged at 1138-59 feet in Rice Oil & Gas Company's Oakley Estate 1, SE NW SW Section 9-3n-29e, Houston County, Alabama, recently and no formation test is planned but operators plan to drill ahead. A formation tester, however, has been brought to the location. The sand was identified as Nacatosh.

El Dorado, Ark.—Arkansas Fuel Oil Company is reported to have found two "highs" after seismograph exploration on a block of over 850,000 acres of wildcat leases it holds in southeast Arkansas, in Ashley, Chicot, Cleveland and Drew Counties. One of these highs is said to center in Section 15-15-10, 18 miles south of the town of Warren on land leased from Arkansas Timber Company, and the other is said to be in Cleveland County near the village of New Edinburg. A test is expected to be drilled soon on the one located in Section 15-15-10, Chicot County.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New Mexico Pool Has Second Well in Prospect

Hobbs, New Mexico.—A second prolific oil producer was in prospect last week for the new pool recently opened in Lea County about four miles north of the Jal district when General Crude Oil Company and Magnolia Petroleum Company's Zattu Cushing 1, SWc SE NW Section 23-24s-36e, flowed oil and gas through drill stem tester from saturated lime at 3489-3498 feet, with an elevation of 3339 feet. Competent observers estimated the well as being capable of producing above 2500 barrels of oil and 7,000,000 cubic feet of gas daily, or about the same as the preliminary showing made by the same companies' discovery well, a half-mile to the southwest. Casing has been cemented in Cushing 1, at 3460 feet to shut off heavy gas horizons passed up in deepening the hole from its original completion depth of 3205 feet in November, 1929.

This Lea County area broke into prominence last April 21 when the above companies' A. E. Meyer 1, NEc SE Section 22-24s-36e, flowed 4500 barrels of 30 gravity oil, and later gauged 240 barrels oil via open casing from saturated lime at 3501-3508 feet, with an elevation of 3337 feet. This well was originally completed as a dry gasser at 3438 feet in July, 1929. It topped the lime at 2968 feet, while Cushing 1 topped the same marker at 2795 feet. The top of the oil producing horizon of the two wells ranges from 150 to 164 feet below sea level.

Phillips Petroleum Company has contracted for the purchase of controlling interest in Pure Oil Company's 940 acres of lease protection in this area, including the tract lying directly between the two wells. Possibilities are bright for this new oil area to become the second most productive area in the state, exceeded only by the Hobbs field, although the Eunice field is still a strong contender. The Jal district offers big wells occasionally, but bottom hole water invariably puts in its appearance shortly after wells are placed on production, even though restricted to proration allowances.

Continental Oil Company and The California Company, discoverers of the Eunice field, have five completed wells, and are drilling below 1200 feet on another test. These companies made locations for two more tests last week, both on State fee in the NW Section 20-21s-36e, offsetting producers. Tide Water Oil Company, Atlantic Oil Producing Company and Repollo Oil Company have one test each under way in the field.

No increase in production has been scored by the deepening of The Texas Company's J. S. Lea 1, SWc NW Section 14-20s-34e, a wildcat 2½ miles north of the Lea-Lynch field, in drilling to 3590 feet. It swabbed and flowed from 150 to 200 barrels daily.

Completions reported for the Rocky Mountain area during the week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY—		
Nadeau Bros., Can DeMark 2, sw nw 35-35n-6w	125	2910
Texas Co., Antrim 2C, Lot 1, 34-35n-6w	100	2933
Carrie Long 1, nw sw 23-35n-6w.	129	2860
LIBERTY COUNTY—		
Shebal, Rehal, Hayes et al, Strode 1, se nw 3-36n-4e	*	1675
WYOMING		
SWEETWATER COUNTY—		
Mountain Fuel Supply Co., Union Pacific 2, sw se 11-19n-104w	¶15	3185
WESTON COUNTY—		
Dr. W. G. Earle, Kara 1, sw 36-47n-64w	*	736
COLORADO		
MOFFAT COUNTY—		
Mountain Fuel Supply Co., Florence Wilson 3-B, cse sw 15-12n-100w	*	2823
NEW MEXICO		
SAN JUAN COUNTY—		
J. E. Amenda, Well 1, ne sw 25-30-12w	3	890

*Failures; †Junked; ¶Million cu. ft. gas.

New Company Plans Wells on Garland Dome

Lovell, Wyo.—The newly organized Garland Oil Company will drill five wells in the Garland Dome oil field, Big Horn County, according to H. H. Underhill, vice president of the company who arrived here this week by plane from his home at Spokane, Washington. Contract for the two of the tests has been let by Clyde Brannon, drilling contractor of Casper. Location of the tests has not been made public.

Sidney H. Keoughan is rigged with rotary and resuming from 2855 feet in the Taylor Oil Company's Hoskins 1, Lot 5, SE SE Section 25-56n-97w, in the Byron oil field, adjoining Garland Dome in Big Horn County. Keoghan is drilling the well on an operating basis. The well was drilled to its present depth with cable tools and had a commercial show of light oil in the Frontier formation but is going ahead for the Pennsylvanian for the larger black oil production.

Casper, Wyo.—Mutual Oil Syndicate (Sidney H. Keoghan et al) will drill deeper from 5190 feet in Boyer 2, SW NE NE Section 23-35n-79w, in the Midway Dome field, 12 miles north of here. The well pumped 180 barrels of fluid daily, half crude and half water and mud. Production is coming from the second bench of the second Wall Creek sand.

Osage, Wyo.—North extension test of the Osage field, Weston County, was reported a failure this week. Dr. W. G. Earle's test in SW Section 36-47n-63w, was abandoned at 736 feet after showing for nothing commercial. It had a one-barrel show of oil at 260 feet in shale. Chadron-Osage Oil Company's Osage 25, CNL SW SE Section 14-46n-64w, the only other active test in the Osage district, is drilling at 1689 feet.

Lusk, Wyo.—Western extension test to the deeper horizons of the West Mule Creek shallow oil field, Niobrarra County, the Interstate Oil & Refining Company and the Fall River Royalty & Producing Company's Morrel 1, NW NE SE Section 2-39n-61w, is drilling in pink shale at 2735 feet.

Rock Springs, Wyo.—Mountain Fuel Supply Company has a near completion in Florence Wilson 3-B, CSE SW Section 15-12n-100w, in the Hiawatha Dome gas field, Moffat County, northwestern Colorado and Union Pacific 2, SW SE Section 11-19n-104w, in the Baxter Basin field, Sweetwater County, southwestern Wyoming.

Wilson 3-B is drilling out plug with the 8¼-inch production string set on top of the gas sand at 2824 feet. The test cored 2892 feet and showed 12,000,000 cubic feet of gas through the drill stem. Union Pacific 2 is running tubing to test gas flow at 3200 feet.

Late Cut Bank Well Better Than Average

Cut Bank, Mont.—One completion and one start were made in the Cut Bank field, Glacier County, Montana, this week. Nadeau Brothers had a better-than-average Cut Bank well in Van Demark 2, SW NW Section 35-35n-6w, which pumped 125 barrels initial. The producing sand was logged between 2879-2900 feet with hole bottomed at 2910 feet. Same operators are moving in material for Van Demark 3, SW NW Section 35-35n-6w, making the total drilling operations 33 under way.

Interest in the field is centering on Producers Development Syndicate's Helgason 1, NW NW Section 29-32n-4w, which is preparing to run production string 2679 feet in the upper Cut Bank sand. The pay horizon, the lower Cut Bank, is expected within the next 25 feet of new hole. The well is southeast extension, five miles to the east and a few miles south of The Texas State well, now the southernmost producer in the field since the Montana Gas Power Company's Neill 1, drilled into commercial production and joined the South Cut Bank area with Cut Bank proper.

Settled production on recent Cut Bank

completions is as follows: R. C. Tarrant's Britton 3, CNE SW Section 12-34n-6w, pumping 45 barrels daily with total depth at 2805 feet. The Texas Company's Antrim 1, center of Lot 1, Section 27-35n-6w, pumping 47 barrels daily at 2939 feet. The Texas Company's Fee 1, Lot 7, Section 15-35n-6w, pumping 80 barrels daily at 2908 feet. The Texas Company's Hinkle 2, W½ NE Section 2-34n-6w, pumping 80 barrels daily at 2868 feet. The Texas Company's Yunck 2, SW SW Section 14-35n-6w, pumping 80 barrels daily at 2871 feet. R. C. Jeffries' Clark 1, CSW NW Section 2-34n-6w, pumping 15 barrels daily at 2971 feet.

Record Depth Test Will Try Formation at 11,370 Feet

Los Angeles.—The world record depth well, General Petroleum Corporation's Berry 1, at Belridge, in Kern County, the morning of May 29 was drilling and coring at 11,370 feet, and decision has been reached to set liner preparatory to making a production test soon after June 1. The formation is shale with streaks of oil sand, which started at 11,200 feet. Progress is very slow, due to the extreme care exercised in the operations on account of the depth.

The other record depth well in California, Lillis-Welsh 1, on the edge of the Kettleman Hills field, is redrilling at 10,230 feet, with the old bottom at 10,944 feet. Slow but steady progress is being made in sidetracking the old drill pipe in the bottom of the hole.

Kettleman Hills Has 25 Tests Actively Underway

Los Angeles.—As of May 28, 25 tests were actively drilling at Kettleman Hills, not including the McAdams outskirt hole, being drilled by Union Oil Company. Seven rigs are up and foundations are going in at three locations. Of the total number of wells drilling, six are below 8000 feet and three are almost ready for production tests.

Kettleman North Dome Association's 56-8Q had reached 9841 feet when the drill pipe froze. An effort to loosen by circulating oil was unsuccessful, and the pipe is now being cut and pulled. At last reports top of pipe was at 5940 feet. This test is out on the flank of the structure and so far has had no showing worth a test.

Los Angeles.—At the old Santa Maria field in Santa Barbara County, Union Oil Company's Calcoast 14, Section 26-9-34, is drilling in shale at 3475 feet and is showing oil. This is the lone driller in the field.

Six New California Wells Are All Small

Los Angeles.—Only six new completions were reported in California the past week, and none of them are of outstanding importance.

Associated Oil Company's Lloyd 16 was recompleted at Ventura Avenue for 725 barrels of 31 gravity oil after plugging from 5280 feet to 4334 feet.

List of new completions follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
R. R. Bush Oil Co., Hilseth 4.....	75	4732
MONTEBELLO—		
Standard, Temple 18	230	3800
HUNTINGTON BEACH—		
F. A. Burkett, Messenger 1.....	300	5040
KETTLEMAN HILLS—		
Kettleman North Dome, 36-20J....	1950	8700
KERN FRONT—		
General Pet. Corp., Young 4	125	2098
DUFF AREA—		
Gilmore, Inc., Stuart Gerard 1	200	2347

*Failures; †Junked; ¶Million cu. ft. gas.

Los Angeles.—Twenty-seven rigs are busy at Long Beach, but at least half of this number are redrilling jobs. A number of wells had been drilling or redrilling, but are now idle for various causes.

Union Oil Company is busy on three wells on its Long Beach Community lease, one of which is to go on the pump in a few days. The Texas Company is also busy with two drilling jobs. The other activity is in the hands of independents.

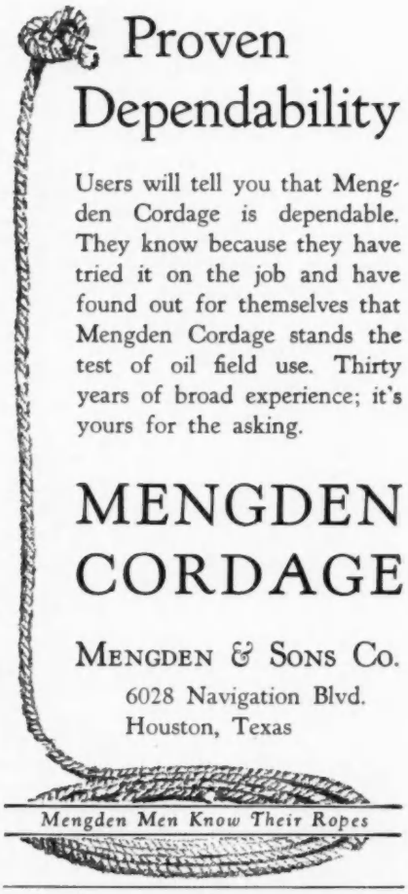
New Kern County Field To Be Known as Duff

Los Angeles.—Another new field has been proven in Kern County at a comparatively shallow depth and is to be known as Duff, as the discovery well is located on the Duff property. The new field is located almost due east of the Hogan property at Mountain View. Formerly this section had been designated as the Edison area on the wildcat reports.

Monterey Exploration Company's Duff 3, in Section 15-30-29, was drilled to 3355 feet and plugged back to 3280 feet. A string of 8⅝-inch was cemented at 3055 feet. It is producing through 242 feet of perforated. On the potential production test, the well is flowing 540 barrels of 24.2 gravity oil.

Gilmore, Inc., completed Stuart-Gerard 1, Section 23-30-29, for 250 barrels of 19 gravity oil on the pump with 135 feet of perforated on bottom. The hole had been drilled to 2347 feet with 8⅝-inch at 1934 feet but was wet when tested and was then plugged back to 2168 feet.

Monterey Exploration Company has staked location for Nozu 1, in Section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22-30-29, and A. T. Jergins will drill Hay 1, in Section 22-30-29.

Since practically all of the land in the general area is under lease, it is expected that several wells will be started in the next 60 to 90 days.

Los Angeles.—Western Gulf Oil Company's S. P. L. Co. 1, Section 15-17-15, in Fresno County, is drilling in hard shale at 8710 feet with no showings. This wildcat is being watched closely and it is understood that drilling will continue until trouble is encountered or oil is found.

Two Michigan Outpost Tests Report Oil Shows

Mt. Pleasant, Mich.—Oil shows were reported this week on two scattered outpost tests, one in Saginaw County and the other in Lapeer County. Meanwhile, the Mecosta-Montcalm Counties testing play was given a new spurt when the two Montcalm County Traverse horizon producers potentialed above 1000 barrels each daily, nearly double the estimates made a week ago after acid treatment.

Daily Crude Oil Company's Christensen 1, Montcalm County, Home township, Section 10, was potentialed at 1222 barrels daily based on a three-hour open flow test with an average of 575 pounds pressure. The test when drilled in late in 1933 had an original open flow production of 120 barrels. It was treated with acid two weeks ago and at that time estimated good for 650 barrels daily.

Same company's Christensen 2, same section, completed in April for 116 barrels natural potentialed at 1029 barrels daily after acid treatment. Both wells are producing from the Traverse horizon at approximately 3100 feet.

White Star Oil Company's State Bank 1, Saginaw County, Birch Run township, SW NE SW Section 26, showed oil and gas in the Dundee horizon at approximately 2600 feet and was to be tested further the last of the week.

W. C. Sowell's Kohler 1, Lapeer County, Oregon township, NW SE SW Section 4, showed oil at 1412 feet in the Berea sand formation and was estimated good for two to five barrels after a nitro shot. It also was making water.

Michigan Operators Favor Pending Federal Bill

Mt. Pleasant, Mich.—The Oil & Gas Association of Michigan this week went on record in favor of the passage of the Thomas Senate Bill No. 3495 "to the end that the federal government and state regulatory bodies may coordinate their efforts to bring about protection against the return of previous conditions."

In its preamble the resolution says, "Whereas, conditions that existed in the petroleum industry within the United States before the creation of the code of fair competition for the petroleum industries were such that all producers operated their properties without profit and, this condition was brought about to a large degree by the inability of oil producers to regulate their production in conformance with market demands, and, this chaotic condition lead to the demoralization of price structures and cut throat competition."

Henry G. Hunt, executive secretary of the association left for Washington May 29 to carry the association's desires direct to the legislators.

Mt. Pleasant, Mich.—Likelihood of a lower proration schedule than the present seven percent set up appeared this week in Michigan with the total state potential fixed at 132,675 barrels daily. While this represents a drop in the potential of May 1 of about 3000 barrels, the increase in number of wells is expected to call for a smaller percent pro rate to allow for the new wells. Fixing of the pro rate schedule for June is expected to be completed by the last of the week.

Six Michigan Oil Wells Are in Proven Areas

Mt. Pleasant, Mich.—Eight completions in Michigan for the week included one 3100 barrel Dundee producer, five other producers in proven areas and two failures. Pure Oil Company's Beukema 1, Allegan County wildcat test, Dorr township, Section 27, will be abandoned as a failure at 1960 feet after drilling into water.

Other completions were in defined production areas with the exception of Garfield Oil & Gas Company's White 1, Isabella County, Vernon township, NW SW SW, Section 24, an east edge test, which failed to produce and will be abandoned at 3805 feet.

Completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Pure Oil Co., Neitzke 8, Porter twp., nw nw se, sec. 21	3100	3428
Neitzke 4, Porter twp., se nw sw, Sec. 21	75	3435
Alexander 1, Porter twp., nw se se, Sec. 18	1994	3428
J. S. Braden, McCallum 2, Porter twp., se se se, sec. 20	55	3430
Columbia & Gordon, Hale 2, Porter twp., ne sw sw, sec. 21	175	3426
Chas. Teater, Wale 8, Porter twp., sw nw nw, sec. 22	90	3427
ISABELLA COUNTY—		
Garfield Oil & Gas Co., White 1, Vernon twp., nw sw sw, sec. 24	*	3805
ALLEGAN COUNTY—		
Pure Oil Co., Beukema 1, Dorr twp., ne sw sw, sec. 27	*	1960

*Failures; †Junked; ¶Million cu. ft. gas.

Eastern States Report 44 Well Completions

Cleveland, Ohio.—Completions in the Eastern States last week totaled 44 of which 14 were oil wells, as follows:

PENNSYLVANIA

Company, Well and Location	Init. Prod. Bbls.	Depth
GREEN COUNTY—		
Conklin, Phillips & Co., Jas. McClure	*	2050

WEST VIRGINIA

Company, Well and Location	Init. Prod. Bbls.	Depth
CALHOUN COUNTY—		
Ohio Valley Oil & Gas Co., Bailey 1	*	1971
C. B. Lewis & Co., Kight 1	¶	2100
DODDRIDGE COUNTY—		
Hope Construction & Refg. Co., H. Smith 3568	3	2002
PLEASANTS COUNTY—		
Dinsmore & Co., Thompson 3	*	....
ROANE COUNTY—		
Reedy O.&G. Corp., Guthrie 1	4	....
Henderson Oil Co., F. H. Bee, Jr., 2	20	....
RITCHIE COUNTY—		
M. A. D. Broadwaler, Fee 1	*	....
Big Bend Oil & Gas Co., Barker 1	*	....
J. C. Smith & Co., Hanlon 1	10	1900
Queen Oil & Gas Co., McKinney 3	3	1832
Manuafcturers L. & H. Co., Wend 3474	¶	3350
TYLER COUNTY—		
Homer Hess & Co., Hess 5	*	781

SOUTHEASTERN OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
JEFFERSON COUNTY—		
Edward C. Collins & Co., Wheeling Traction 2	*	1600
MORGAN COUNTY—		
Ohio Fuel Gas Co., Harris 1	¶	1417
NOBLE COUNTY—		
B. E. King, Crum 9	*	254
PERRY COUNTY—		
J. W. Walsmith, Redfern 2	¶	1186
WASHINGTON COUNTY—		
Montgomery & Miller, Montgomery 11	8	....
Harris Drlg. Co., Pool 3	*	3250

CENTRAL OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
FAIRFIELD COUNTY—		
City Natural Gas Works, Mertz & Moyer 1	*	1932
GUERNSEY COUNTY—		
Paul Blank, McBride 3	¶	1344
LICKING COUNTY—		
L. W. Rutledge, Trustee, Hoyt 2	10	....
Settles Oil Co., Evans 2	4	579
LORAIN COUNTY—		
Wittmer Oil & Gas Co., Gannon 1	¶	2636
MEDINA COUNTY—		
E. R. Edson & Son Co., E. G. Miller 45	*	446
MUSKINGUM COUNTY—		
Hopewell Oil & Gas Co., Hellriggle 2	¶	4160
MEIGS COUNTY —		
Joe Rubin & Co., Elza Starr 1	¶	956
Barton & Utsinger, D. Bryan 1	¶	775

LIMA FIELD

Company, Well and Location	Init. Prod. Bbls.	Depth
WYANDOT COUNTY—		
McPherson & Co., Smalley 1	100	....
Craig & Co., Berg 1	5	....

INDIANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GIBSON COUNTY—		
H. J. Deiner, Williams 1	*	360
Gem Oil Corp., Harper 4	*	360
KNOX COUNTY—		
O. A. Thayer & Co., Stennett-Aldridge 1	*	808
O. A. Thayer, Burton Yates 2	¶	816
PERRY COUNTY—		
Bankable Oil Co., Adders 1	*	....
PIKE COUNTY —		
A. E. Davis & Co., Elkins 1	*	1212
Gem Oil Co., Taylor 1	*	361
VANDEBURG COUNTY—		
Foreman & Miller, Builtman & Co. 3	25	1031
Foreman & Miller, Builtman & Co. 4	30	1030
A. P. Talliaferro. Neidhammer 4	50	1030
J. S. Young. Jr., Ott Euler 1	*	1090

KENTUCKY

Company, Well and Location	Init. Prod. Bbls.	Depth
ALLEN COUNTY—		
Ben Ruble. G. M. Welch 1	*	....
HENDERSON COUNTY—		
Pottsville O.&G. Co., Wilson 2	15	....

*Failures; †Junked; ¶Million cu. ft. gas.

Drilling Reports On Important Wildcats

WEST TEXAS

ANDREWS COUNTY—Fuhrman Pet. Corp's W. H. Boner 1-B, top anhydrite 1720 ft and top salt 1760 ft, flowing 265 bbls oil 24 hrs from lime at 4433-4438 ft, dr 4455 ft. Humble Oil & Refining Co.'s J. W. Kuykendall 1, flowing oil by heads and dr in lime 4350-4450 ft; R. M. Means 1 mudded off 10,800,000 cubic ft gas at 2957 ft, dr 3150 ft.

BORDEN COUNTY—Continental Oil Co.'s Clayton-Johnson 1, sd for repairs 155 ft.

BREWSTER COUNTY—C. M. "Dad" Joiner et al's W. J. McEntire 1, sd 1415 ft.

COKE COUNTY—W. Monroe Hooper et al's S. W. Gaston 1, dr with HFW 2265 ft.

CRANE COUNTY—Cordova Union Oil Corp.'s Edwards 1, materials.

DAWSON COUNTY—Ray A. Albaugh et al's John Robinson 1, sd 1750 ft.

ECTOR COUNTY—C. J. "Red" Davidson et al's H. E. Cummins-Empire 1, elev 2654 ft, top Yates sand 2740 ft, top gray lime 3285 ft, sd for cas 4172 ft. Landreth Prod Corp et al's Clarence Scharbauer 1, rig. R. L. York & O. C. Harper's W. F. Bates 1 dr 600 ft.

FISHER COUNTY—E. T. Campbell et al's W. R. Bishop 1 rig.

GLASSCOCK COUNTY—Steve Currie et al's W. H. Underwood 1, lcn. John I. Moore Pet Corp & Loffland Bros et al's L. S. McDowell 1, evel 2534 ft, top lime 2137 ft, cem 10¾-in cas 2187 ft, td 2197 ft.

TOM GREEN COUNTY—Southwestern Exploration Co.'s J. W. Bennett 1, elev 1792 ft, dr 2515 ft.

HOWARD COUNTY—Southern Oil Corp.'s J. T. Frazier 1, sp and sd. Stacy B. Dorn et al's TP Land Trust 1, lcn.

IRION COUNTY—Melrose Oil Co.'s J. D. Sugg 1, sp and sd. J. P. Williams and D. M. Short's D. S. Gentry 1, dr 915 ft.

JONES COUNTY—Campbell et al's Chas. Herndon 3, sd 2497 ft.

MENARD COUNTY—Jas. L. Duffy and John C. Chidster's W. J. Wilkinson 1, lcn.

PECOS COUNTY—Humble O&R Co.'s White-Baker 1, elev 2715 ft, top Ordovician series 8040 ft and top of Ellenberger limestone 9385 ft, cor in 6¼-in hole 9625 ft. Humble and Phillips Pet Co.'s J. L. Nutt 1, tested sulphur water at 2405 ft, with show oil, dr 2505 ft. Mac T. Anderson et al's T. N. McKenzie 1, testing with 500 ft OIH 1338-1344 ft. Trans-Texas Oil Co.'s C. M. Caldwell 1, sd 320 ft. Tex-Mex Pet. Corp.'s G. W. Wallings, Jr., machine.

REAGAN COUNTY—E. P. Kirschner et al's W. H. White-McIntosh 1, top lime 2809 ft, sd 3200 ft.

REEVES COUNTY—Hugo Freels Oil Co.'s I. B. Greeman 1, pb from salt water 3980-3985 ft to 3980 ft; shot and sd with show oil. Grisham-Hunter Corp.'s Fee 1 top salt 1780 ft, sd 3570 ft. C. H. Lockhart et al's W. D. Johnson 1 lcn.

RUNNELS COUNTY—Daniels et al's W. F. James 1, sd 910 ft. Melrose Oil Co.'s Mrs. L. P. Wood 1 sd 1429 ft. W. D. Sawyer et al's H. Giesecke-Russell 1 making 2,500,000 ft gas with spray oil in sandy lime, 2029-2033 ft, fsh tools. F. D. Williamson et al's J. L. Elkins 1, sd 1400 ft.

SCHLEICHER COUNTY—J. M. Cooper-Geo. T. Wilson et al's Bert Page 1, evel 2270 ft, dr 5060 ft.

SCURRY COUNTY—H. H. Coffield and W. S. Guthrie's Bryce-Fogelson 1, evel 2268 ft, top lime 1525 ft, dry and abn 2400 ft; Dodson 1, machine.

STONEWALL COUNTY—Merry Bros. & Perini, Inc. and Humble's Williams 1 sp and sd.

TAYLOR COUNTY—H. Crissman et al's Abilene fee 1 dr 510 ft. N. E. Davenport et al's R. H. Anderson 1, top lime 1860 ft, fsh 1985 ft.

TERRELL COUNTY—Marion Briggs et al's Joe Kerr 1 sd 800 ft. H. H. Sides and W. A. Sudderth's J. H. Phelps-Bates 1, elev 2185 ft, sd 5635 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls.—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; woc—waiting for cement to set; wosr—waiting on standard rig.

UPTON COUNTY—Gulf Prod Co.'s J. T. McElroy 103, elev 2625 ft, top lime 2620 ft top Ordovician section 10,167 ft, dr 10,250 ft. Broderick & Calvert, Inc's Homer (La) Nat'l Bank 1, location.

WINKLER COUNTY—R. S. Matthews et al's Evans 1, lcn.

EAST TEXAS

ANDERSON COUNTY—Byrd-Frost, Inc. and Stanolind's Alice Scott-Pure 1, (300-a) Jas. Crawford sur, Slocum area, elev 398 ft, Pecan chalk 4379-4852 ft, Austin chalk 5281-5435 ft; pb fr Woodbine sand 5455-5501 ft, showing salt water with trace oil to re-test at 5461 ft. Guy Jameson, C. W. Byron, W. C. McGlothlin et al's S. N. Price 1, (60¼-a) J. J. Y'Barbo sur, Springfield-Blackfoot area, elev 512 ft, Pecan chalk 3114-3298 ft, Austin chalk 4292-4610 ft, coring 4950 ft. J. R. Meeker et al's H. H. Duncan 1, (12½-a) A. Enes sur, elev 355 ft, Pecan chalk 2350-2447 ft, Austin chalk 3392-3758 ft, coring 4090 ft. Sun Oil Co.'s Robt. N. Erskine 1 (5203-a), Box sur, lcn.

CASS COUNTY—J. D. Kneen et al's E. M. Ball 1, (160-a), Cass Co. School Lands, sp and sd. Remley-Nelley & R. Kamon Group No. 1's Mrs. I. O. Savage 1 (121-a), Mary Patterson sur, elev 351 ft, Pecan chalk 2030-2488 ft, sd in Fredericksberg lime 3810 ft. H. F. Wilcox et al's S. A. Orr 1 (316-a), G. W. Morris sur, elev 381 ft, cemented cas, td 3887 ft. United Production Corp.'s T. J. Walton 1, J. Coleman sur, top Nacatoch sand 1455 ft, Pecan chalk 2079-2421 ft, dr 2970 ft.

CHEROKEE COUNTY—A. R. Lewis et al's Jess Bradford 1 (50-a), John Laprelle sur, sd 2835 ft. W. L. Stearns et al's W. L. Stearns 1 (89-a), S. A. Maverick sur, Boggy Creek field, lcn. T. J. Wood & Young's New Birmingham Dev. Co. 1 (160-a), Levi Jordan sur, elev 432 ft, Pecan chalk 3985-4306 ft, Austin chalk 4840-4978 ft, cemented cas, top Woodbine sand 5137-5139 ft.

FREESTONE COUNTY—Walter L. Goldston et al's E.M.&C.H. Watson 1, R. D. Price sur, lcn. Clyde Creighton et al's W. A. Holley 1, (80-a), A.B.&M. sur, elev 399 ft, sd 5124 ft. J. E. Milburn & J. B. Patty's S. A. McAshan 1 (40a), J. P. Fulton sur, lcn. Trinity Farm Securities Co. and A. A. Lander's Trinity Farm 1 (80-a), R. M. Williamson sur, lcn.

FRANKLIN COUNTY—Magnolia Pet. Co.'s J. M. Dupree 1 (640-a), W. D. Taliaferro sur, materials.

HENDERSON COUNTY—John R. Black, Darby, Stanolind et al's G. B. Meredith 1 (109-a), Wiley Kay sur, elev 373 ft, Pecan chalk 2323-2457 ft, Austin chalk 3350-3757 ft top Woodbine sand 4083 ft, aban in salt water 4235 ft. Big Bad Wolf Oil Co. (Frank S. Morris') E. E. McCrary 1, (50-a), Wm. H. Irwin sur, lcn. Great State Oil Corp.'s R. Sid Ansley 1, N. B. Thompson sur, dk. Gulf Prod. Co.'s Geo. M. Collins 1, (100a), Wm. J. L. Scott sur, sp.

HUNT COUNTY—M. O. Shawver et al's J. H. Jones 1, (99-a), Lydia Ferguson sur, Austin chalk 1180-2035 ft, dr 2930 ft. J. H. Waggoner O&G Co. and L. G. Priest's J. R. Love 1, (95-a), John Grilisky sur, elev 558 ft, top Pecan chalk 1562 ft, Austin chalk 1928-2040 ft, dry and aban 3385 ft.

LAMAR COUNTY—Cole-Waggoner et al's W. B. Martin 1, (132-a), J. Deck sur, sd 2500 ft.

LIMESTONE COUNTY—C. M. "Dad" Joiner et al's S. A. Knapp 1, (676¼-a), Luke Moore sur, near Kosse, sd 1700 ft.

MORRIS COUNTY—Ginsberg Bros. et al's E. Hall 1, (177-ac), Levi Jordan sur, dr 1460 ft. C. L. Simpson, Ralph A. Porter and W. Z. Beasley's P. M. Staggers 1, J. D. Nelson sur, sd 2330 ft.

NAVARRO COUNTY—W. J. Keeling et al's J. F. Rushing 1, (84-a), Henry Ford sur, dk. L. N. McCulloch et al's C.D.&J.L. Berry 1, (35-a), W. W. Moss sur, sd 300 ft. R. L. Wheelock-J. L. Collins-Magnolia & Humble's I. N. Cerf 1, (50-a), Jas. Smith sur, Trinity sand test for Corsicana-Powell field materials.

RAINS COUNTY—J. W. Halsell et al's T. F. Jones 1, (22-a),, B.B.B.&C. Ry. sur, elev 425 ft, top Nacatoch sand 1610 ft, sd 2005 ft.

RUSK COUNTY—G. A. Hathaway et al's Gray 1, Jas. McLain sur, elev 315 ft, top Georgetown lime 3140 ft, sd 4460 ft. Geo. F. Hudson et al's Jeff H. Phillips 1-A, N. Villareal sur, top Pecan chalk 2412 ft, sd 3550 ft.

SMITH COUNTY—Cochran and Williams' Mrs. J. M. Dean 1, (100-a), B. Moore sur, lcn. Hunt Production Co.'s Henry Rayford 1, J. L. Dillard sur, elev 512 ft, Pecan chalk 2898-3351 ft, dr 3850 ft. B. F. Phillips et al (was M. M. Rowan's) Gibbons Mfg. Co. 1, J. M. Garcia sur, elev 304 ft, sd 3830 ft. Preston Rose et al's E. Wiggins 1, H. K. Day sur, sp and sd. Texas Trading Co.'s O. T. Ray 1, (100-a), M. T. Duncan sur, northeast of Chandler, elev 367 ft, Pecan chalk 3118-3280 ft, Austin chalk topped 4334 ft, tested salt water in Woodbine sand 4920-5194 ft and abandoned.

UPSHUR COUNTY—G. H. O. Oil Co.'s J. M. Floyd 1, (177-a), Robt. Raiford sur, sd 1085 ft. Lanier & Moore's Mrs. M. Vaughn 1, (108-a), P. B. Standifer sur, sp and sd. Joe Papadakis et al's L. V. Towery 1, (4-a), Wilson L. Parmer sur, dr 1655 ft. R. S. Randerson et al's J. H. Minor 1, R. D. Cannon sur, 3 mi ne of Coffeeville, Pecan chalk 2300-2860 ft, top Austin chalk 3510 ft, sd for cas with trace gas in Woodbine section 3695-3697 ft.

VAN ZANDT COUNTY—B. F. Blackman et al's C. E. Dorrill 1, (35-a), C. E. Rivers sur, sd 640 ft. C. A. Gilliam, Virgil Whitworth and Arthur Allen's A. T. Bass 1, (16-a), Wm. Hart sur topped Woodbine sand 4210 ft, sd 4236 ft. Jenkins Oil Corp.'s M. E. Davis 2, (66-ac), Blk. 9, N.C.S.L. Sur, lcn. S. E. Miller Co.'s J. M. Palmer 1, (59-a), sp and sd. Peden-Olson Oil Co.'s W. S. Brannon 3, (45-a), dr 345 ft; J. M. Palmer 1, dr 215 ft. Skinner et al's D. F. Cade 1, (28-a), sd 240 ft. W. O. Smith et al's J. H. Campbell 1, lcn. Van Zandt Synd's Dr. C. S. Coker 1, (60-a), sd 1208 ft.

WOOD COUNTY—D. T. Cauble & Mrs. J. C. Thompson's N. G. Bobbett 1-A, (50-a), Daniel Fuller sur, Mineola area, elev 497 ft, Pecan chalk 2950-3234 ft sd 5502 ft. McElreath-Suggett Oil Corp.'s B. D. Holley 1, (43.2-a), Thos. M. Moore sur, elev 486 ft. Pecan chalk 2630-2742 ft; Austin 4006-4112 ft, cor 4400 ft. Alex M. Snyder et al's J. T. Holmes 1, (122-a), A. N. McKnight sur, sp and sd.

SOUTH TEXAS

ATASCOSA COUNTY—Texas Pet. Co.'s T. W. Masterson 2, 290 ft el, 280 ft s No. 1, G. N. Mott Sur. No. 386, dr 1050 ft.

BANDERA COUNTY—Peerless Oil & G. Co.'s R. G. Garrison 1, Sec. 506, GC&SF Sur, 8 mi sw Medina, move in dk. A. P. Crane & Co.'s Watson 1, dr blk sh 925 ft.

BASTROP COUNTY—J. W. Bunton's W. P. Watts 1, 150 ft sel, 750 ft swl 75 ac tr, ¼ mi n Yost field move in. Marts & Beaven's J. D. King 1, Enoch Harris Sur. 22, dr 2230 ft, serp 2223-2225 ft, top ch 2225 ft. Watt L. Saunders, Tr.'s, A. Harris et al 1, J. Maximil-

lian Sur, blk 436, td 2338 ft, bail to bottom, show little oil.

BEE COUNTY — Caeser Oil Co.'s R. E. Miller 1, F. Lewis Sur, dr 1300 ft; W. E. Ruckman 1, F. Lewis Sur, ru. Dash Prod. Co.'s Ruhmann 5BB (formerly 2), ru. Dirks Bros' Skinner & Harris 1, J. M. Uranga gr, Sec. 10, dr 3710 ft. Heep Oil Co.'s J. C. Wood 1, P. Crain Sur, td 4708 ft, whipstocking to sdtr to snd 4201-5 ft, comp as gasser. Houston Oil Co.'s Miller 1, F. Lewis Sur, set 550 ft sur cas, woc. J. L. Tippit's Laura Weiss 1, B&B Sur, prep to re-dr 100 ft. Phillips Pet. Co.'s T. P. Morgan 1, H. E. Eyles Sur, set cas 6091 ft, woc. United's G. A. Ray 45, W. J. Porter Sur, coring below 3830 ft. Worth Oil Co.'s Seale 1, B Q. Hadley Sur, ru.

BEXAR COUNTY—Joe Beckley's Fee 1, Mt. Vernon Addn, S. A. townsite Sur, td 1270 ft in lime, completing as water well. A. M. Blume's Louis Ridder 2, J. M. Baerrera Sur. No. 58, td 1630 ft, pb 1430 ft, woc. Briggs & McPhee's Florence Lamb 1, Manuel de Luna Sur. No. 4, dr 650 ft; Randolph Carter 1, Manuel de la Luna Sur, ru. J. R. Boles' T. R. Dillon 1, M. de la Luna Sur, dr 100 ft. Dingman & Russell Leasing Co.'s Mrs. C. N. Cassin 3 (formerly 1), F. Rodriguez Sur, County blk 4005, dr 226 ft. Geo. L. O'Neill's Niemann 1, Juan Montez Sur No. 6, td 1425 ft, bail oil and mud.

CALDWELL COUNTY—S. S. Cargill's W. Damerau 2, D. Cooper Sur, fsh 2262 ft. Floyd Dodson's Smith Est. 1, 750 ft swl and 275 ft nwl 52.6 ac tr in Samuel Shupe Sur 267, ne Luling field, dr 560 ft. Bob Keene et al's W. Ewald 1, James George Sur, dr 2228 ft. Joe Mills et al's Emily Johnson 1, J. Pinchback Sur, pull liner 2110 ft. M. C. Moore's Lackey 1, 440 ft wl and 150 ft nl of 193 ac tr, Squire Damon Sur, lcn. H. S. Morgan's Blackwell 1, 822 ft el and 150 ft sl 88 ac tr, J. R. Rains Sur, ne Salt Flats, move in.

CALHOUN COUNTY — Continental Oil Co.'s Am. Nat'l Realty Co. 1, ne Sec. 6, Blk 2, set 205 ft 18⅝ cas, dr 780 ft. J. H. Meek's Rydolph Odem 1, in 64 ac tr, Valentine Garcia Sur, 3 mi e and n McKamey, move in. Southwest Oil Corp.'s E. H. Welder 1A, Cuadrilla Irr. Sur. No. 8, coring 6320 ft; E. H. Welder 1-B, DL&CO A 228 Sur, dr 2435 ft.

DE WITT COUNTY — Keystone Royalty Co.'s L. T. Burns 1, N. McNutt Sur, dr 250 ft. Slick-Urshell's Poetter 4, O. Marshall Sur, dr 2400 ft.

EDWARDS COUNTY—H. H. Sides' Turney 1, 1312 ft n and wl of CCSD&RGNG Ry. Sur. No. 164, dr 50 ft.

FRIO COUNTY — Amerada Pet. Corp.'s Halff & Oppenheimer 2, J. H. Gibson Sur. No. 16, dr 4660 ft.

DUVAL COUNTY—A. C. Bess' A. Parr et ux 1, AB&M Sur, Sec. 131, td 3250 ft, no rept. Buffalo-Texas Drlg. Synd. Inc.'s T. V. de Saenz Escobar 1, San Francisco Sur, coring 2595 ft. S. B. Cloyes & W. P. Luse's Hagist 1, Blk. 11, Sec. 265, fsh 2400 ft. Lewis & Beer's W. P. Peters 1, Blk. 18, Sec. 27, dr 600 ft. John D. Manley's F. Benavides 1, 808 ft nel and 347 ft nwl Blk. 318, Myrtle E. Hale sub M. Arispe gr, dk. J. R. Moore's W. R. Peters 1, 330 ft n and wl Sec. 36, ru. G G. Mortimer's W. R. Peters 1-B, Sec. 196, dr 1400 ft. O'Byrne & Jennings' Juan Benavides 1, 330 ft se and sw l blk 6, Sec. 461, ru. Sun Oil Co.'s Moreno 1, Sec. 540, dr 3555 ft.

GOLIAD COUNTY—Kendricks & O'Byrne's Runge Nat'l Bank 1, ru. Sun Oil Co.'s Scarborough 1, move in.

GUADALUPE COUNTY — Cibolo O&G Co.'s Olga Pfiel 1, F. Rodriguez Sur, lcn.

HIDALGO COUNTY—Davis & Harrison's Mrs. L. George 1, tr 13, Por. 41, dr 1330 ft. Union Sulphur's ARGL&I Co. 1, Lot 2297, Blk. 59, dr 5630 ft. Woods et al's J. Lawrence 1, tr 274, Por. 39, sd for water 1100 ft.

JACKSON COUNTY — Encino Gas Co.'s Simon Seidel 1, Musquez Sur, set 1100 ft 10¾ cas, re-dr.

JIM HOGG COUNTY—Sun Oil Co.'s Guerra 1-C, Cuevitas Gr, Sh H 14-A, ru.

JIM WELLS COUNTY—Andrews & Long's Cuero Cattle Co. 1, HT&B RR Sur 9, ru. John F. Camp's B. W. Owens 1, Sec. 11, set 500 ft sur cas, sd. Putnam & Bode's S. McCarley 1, Casa Blanca Gr, dr 2900 ft.

KARNES COUNTY — R. E. Cezeaux's T. Campbell 1, 330 ft s and e l of J. R. Backer Sur, move in. S. W. Forrester's M. Ruckman 1, Musquiz Sur, dr 1560 ft. Fred Lovering's P. R. Goff, Jr., 1, center 208 ac tr, Martinez Sur, 2 mi ne Kenedy, sp and set sur cas. Magnolia's Scarborough 1, E. Talley Sur, cored to 3644 ft, still big gasser. Geo. A. Ray's Mrs. S. E. Radford 1, 400 ft n No. 1, prep to move on.

KENDAL COUNTY—Walter Bradley's W. Werner 1, J. F. Torrey Sur, 840 ft w and 180 ft s Sterling's Werner, move in cable tools.

KERR COUNTY — Edmiston & Walker's Whitworth 1, HE&WT Sur. 1439, fsh 100 ft. Jeff Love & Eastland Oil Co.'s Jeff Love 1, Sec. 1591, set 500 ft sur cas.

LEE COUNTY—J. E. Pederson 1, D. Hudson sur, sd 1905 ft.

LIVE OAK COUNTY—Holmes & Goodwin's Fee 1, B. Haugherty Sur, td 890 ft, made heads gas and water. Jane Oil Co.'s H. L. Lark 2, E. W. B. Scrugham Sur, dr out plugs 991 ft. C. R. Kennon's Lark 1, E. W. B. Scrugham Sur, bail 1070 ft. A. C. Smith's A. H. Gomillion 1, 160 ft n and w l of tr, E. Jurdin Sur, dr 800 ft. C. L. Witherspoon's Tom Draper 1, se cor tr Sparks Sur, dr 1000 ft.

McMULLEN COUNTY — Golithy & Buford's Masur et al 1, McElroy Sur, sd 310 ft. C. A. Hall et al's H. L. Lark 2, E. W. B. Scrugham Sur, dr 935 ft. Lefevre & Spice's E. R. Hagist 2, H&TC Ry. Sur, Sec. 17, sd for water 1510 ft. H. D. Shelton et al's Jacon 1, 3564 ft nel and 1450 ft nwl W. B. Benham Sur, ½ mi w prod., clear lcn. C. C. Shumway's Shiner Ranch 6, Sec. 62, sp. Texio Oil Corp.'s Jacob 3, Benham Sur, td 938 ft, cleaning.

MEDINA COUNTY—Scoggins & Saunders' L. Burrell 1, M. E. Gage Sur No. 395, dr lime 1102 ft. Diadem Oil Co.'s J. C. Mayo 1, Sec. 23, Geo. H. Powell Sub, Driscoll Ranch, coring 4730 ft. Nutex Oil Co.'s King 1, Sec. 24, R. King Farm Lts, td 6021 ft, move in cas to set 5531 ft. Southern Minerals Co.'s Anton Ocker 1, td 4871 ft, dst 41 fourbles oil, set cas, woc. Sullivan-Texon Royalty Co.'s Simmonds & Perry 1, Puencitas Gr. 8, dr 6000 ft. Texas Seaboard Oil Co.'s Laurel Farms 1, Laurel Farm tr, Sec. 40, J. O. Chapman Ranch, ru. United Prod.'s C. P. Talbert 2, Lot 9, Sec. 4, W. R. Peters Sur, dr 5010 ft.

REAL COUNTY—H. J. Heartwell's Mrs. M. S. Perry 1, Sec. 175, AB&M Sur, dr below 1600 ft, last rept.

SAN PATRICIO COUNTY — Beasley & Maxwell's Saddler 1, Sec. 32, Blk. 1, T. Perez Sur, td 2000 ft. C. B. Bunte, Inc.'s, C. C. Smith 1, A. Armstrong Sur, dr 4430 ft. Circle W. Oil Co.'s E. H. Welder 1, tr 5, Villareal Sur, snd 5360-78 ft, set 7 in 5360 ft, woc. Heep Oil Corp.'s Bob Welder 1, homesite tr, n city limits Sinton, move in. J. C. Means' C. C. Smith 1, 990 ft nl and 330 ft wl, J. W. Paup Sur, lcn. Plymouth Oil Co.'s Welder 2-A, J. & F. Portillo Sur, sp; Welder 1-B, 3500 ft n and 45° w No. 1-A, Manuel Musquiz Sur, prep to move on.

STARR COUNTY—Garfield Buell's Guerra 1, 933 ft nel and sel Sec. 10, move in. Hewitt & Dean's M. M. Garcia 1, Sec. 918, dr abt 250 ft. Goodwin & Yantis' Kelsey Bass 5, Blk. 10, Por. 86-87, prep to sp. Great Plains Oil Co.'s Sanchez 1, Sec. 344, dr 3900 ft. Merle Gunby's Block Bros. 1, blk 13, ru. W. P. McDonald's E. A. Peffley 1, Sec. 933, dr 2250 ft. C. C. Bowman 1, Blk. 13, Sec. 888, dr 3135 ft. Sun Oil Co.'s Guerra 6-C, Sacatosa gr, dr 1120 ft. E. L. Younkins' S. C. C. C. 1, Blk 62, Por. 89, td 2665 ft, lay water line.

REFUGIO COUNTY—C. B. Bunte, Inc.'s, Rooke 2, Anton de la Vina Sur, Blk 8, dr 4480 ft; Rooke 3, same sur, sd 5010 ft. J. W. Heard & Holland Oil Co.'s Peck 1, Sec. 24, snd 5183-93 ft, make dst. G. Jeffrey's Power 1, Garcia & Vidauril Sur, dr 2498 ft. Quintana Pet. Corp.'s T. O'Conner 1, J. M. Swisher Sur. No. 3, dr 4310 ft.

TRAVIS COUNTY — Humble's Mrs. K. Wells 1, 150 ft nel and nwl most s 41.5 ac tr, J. P. Kemp Sur, e pt county, ru.

UVALDE COUNTY—Frank A. Brown's J. A. Millikan 1, Antonio Cruz Sur. No. 383, dr 740 ft sh, show sw. I. L. Evans' H. B. Stone 1, 14,735 ft el and 2566 ft nl 4726 ac tr, J. Kemp Sur. No. 652, dr limey clay 41 ft. Evans & Thompson's Faris 1, John M. Hammond Sur, td 850 ft, string up new dr line. Humble's R. L. Anderson 1, J. H. Guerra sur, dr 1300 ft.

VICTORIA COUNTY—C&RG Drlg. Co.'s R. C. Roos 1, M. A. Castanon Sur, dr 4775 ft. Humble's Mitchell 1, P. Beanvides Sur, dr 2225 ft. Petrol Corp.'s John Machalec 1, R. Manchola Gr, snd 2539-41 ft, dst 20 min ¼ choke on beam, 5/16 on top, 11 jts 24 gr oil, set 7 in 2828 ft, woc. Texas Co.'s A. M. McFadden 2, C. M. B. Hoyt Sur, td 2025 ft, prep to dd.

WEBB COUNTY—Usher Carson's A. Webster 2-D, Sec. 684, snd 3039-47 ft, td 3048 ft, woc. J. W. Edward's M. Vela 1, Blk. 9, Sec. 267, dr 2275 ft. United's Bruni Est. 1, Blk. 42, Sec. 8, Adams sub, Arispe Gr, snd 3410-18 ft, dst 8 jts 42 gr oil, 6 jts mud, cas seta, woc.

WILLIAMSON COUNTY—Fritz Fuch's H. Sladek 1, H. White Sur, sd 556 ft. Taylor Ref. Co.'s Reiger 3-A, H. White Sur, re-cem cas 930 ft.

WILSON COUNTY—Ben M. Burger, Tr., O. F. Burney 1, Arocha gr, 310 ft wl and 150 ft sl of 14 ac tr, ½ mi s Floresville, prep to move on. A. P. George's Fee 1, Cantu Diaz Sur, dr 976 ft.

ZAPATA COUNTY — C. C. Crews' M. D. Slator 1, Borrego gr, sd 1739 ft. HB&W Oil Co.'s J. C. Cuellar 1, Blk. 3, Sec. 2, Pappas sub, Por. 34, set 1100 ft 8 in cas. R. B. Morrison's Los Burros Ranch, Blk. 4, Por. 19, dr 1375 ft. Robt. Newton's Killam 1, 150 ft nwl and swl Blk. 6, Sec. 182, lcn. United N&S Oil Co.'s N. Guerra & Son 1, Por. 55, dr 1250 ft.

GULF COAST

AUSTIN COUNTY—Sun Oil Co.'s Zetik 1, S. M. Williams sur, near Brenham, dr sh 2431 ft.

BRAZORIA COUNTY—Holt et als Griffith 1, J. B. Baily sur, moving in rig. W. H. McCarthy's National Life Ins. Co. 1, H. Austin No. 4, A-12 sur, dk. Shell Pet. Corp.'s Howry 2, H. T. & B. sur, abn 6278 ft.

BRAZOS COUNTY—H. L. Bleam's Harrison 1, near Curtain, Allacorre sur, prep to spud.

BURLESON COUNTY—McDavid & Pressley Tr's Atascosa State Bk 1, 1584 ft fr nw, 155 ft fr sw lines of 50 ac lease in the J. Reed sur, lcn. Southern Seaboard's Coulter 1, se corner of county. A Kennon sur, lcn.

CHAMBERS COUNTY—John H. Carreker's Weaver 1, 3 mi e of prod. A Weaver sur, sd 2180 ft.

FT. BEND COUNTY—H. M. Naylor's Gehr 4, Kennedy sur, sd 5406 ft; Gehr 5, n of Orchard field, S. Kenney sur, lcn. Vico Oil Co.'s Darst 1, E. Powell sur, lcn.

GALVESTON COUNTY — G. K. Spoor's Stewart 1, approx. 3 mi n of Hitchcock, W. K. Wilson sur, dr blue sh 5215 ft. Humble Oil & Refining Co.'s Maco Stewart 1, 466 ft s of s bank of Dickinson bayou, J. Sellers sur, rigging up.

GRIMES COUNTY—W. D. Roan et al's Kelly 1, near Carlos, U. Sanders sur, dk.

HARDIN COUNTY—Pharr et al's Bernard 1, ¼ mi of prod. in the Sour Lake field, H. & T. B. sur 69, pulling pipe to plug back. Danciger O. & R. Co.'s Hooks 2, s flank of Batson dome, W. Donahue sur, td 4795 ft. Wilcox Oil & Gas Co.'s Sternberg 1, six mi nw of Kountz, G. Dorsey No. 1 sur, lcn.

HARRIS COUNTY—J. E. Seiber's Tyrell & Carth 1, 5 mi n of Goose Creek field, Highland farm subd, dr gbo 4778 ft. W. F. Armstrong et al's Turner 1, approx 4 mi w Aldine, W. C. R.R. sur, lcn. Foster et al's Johnson 1, n of Baytown, approx 2000 ft fr s line, center of e and w of C. C. & S. F. sur, lcn. H. H. Givans' Bender 1, 2109 ft se and of Jones 100 ac tr on 400 ac lease on the G. Fisher sur, lcn.

JASPER COUNTY—Louis Franklin's Cartwright 1, ne Spurger area, E. Legrand sur, move in material.

JEFFERSON COUNTY — Sun Oil Co.'s Long 1, 2½ mi sw Nome, John Blair sur, reaming 7138 ft.

LIBERTY COUNTY — Gulf Prod. Co.'s Kirby C-2, 4 mi se Cleveland, J. Pleasant sur, reaming 8735 ft; Kirby C-4, in same area, was a dk. Liberty Independent Oil Co.'s J. M. Neal 1, 17 m n of Liberty, S. Strong sur, dr sn bldrs 1018 ft. H. Sample's Securities Trust Co. 1, 6 mi w little n toward Cleveland, J. Faulk sur, dr sh 5400 ft. G. S. Thomas et al's Eicke 1, 4 mi n Liberty, Green sur, sd 5158 ft.

MADISON COUNTY—Hall Edward's Flu-

cher 1, F. Flucher sur, rigging up; Peters 1, abn 6235 ft.

MATAGORDA COUNTY — Dr. Griffith's Fee 1, w Markham, W. E. Bell sur, rigging up.

MONTGOMERY COUNTY—Baker et al's Benker 1, 2 mi nw Conroe townsite, L. H. M. Washington sur, test showed sw at 4680 ft. Humble O. & R. Co.'s Texas Long Leaf Lbr. Co. 1, n Steen's well, Walker County School Land Survey, dr sh 5058 ft. Deering & Frazier's L. Hicks 1, T. Taylor sur, dr water well. Smith & Cooper's Post 1, D. Roper sur, dr 3520 ft, showed distillate odor 3417 ft. Steen Drilling Co.'s Tex Long Leaf Lbr. Co. 1, 8 mi e Conroe field, Walker School Land sur, prep to plug back to comp as gas well.

ORANGE COUNTY—Texas Louisiana Oil Co.'s Moore 1, 5 mi n Orange, Ben Johnson sur, dr sh 4730 ft.

POLK COUNTY — Howard Dailey et al's Knox 1, 1½ mi ne Corrigan, F. Chairs sur, dk. Alpha Pet Co.'s Kirby & West 1, 3000 ft s of Schwabs 2, 4000 ft s of No. 1 G. S. Thomas sur, lcn.

TYLER COUNTY—Boone Wallace Lane's Crews 1, S. L. Graham sur, lcn.

WALLER COUNTY—Amerada Pet. Corp. and Stanolind O. & G. Co.'s Mary Manor 1, near Harris County line, H. & T. B. R.R. sur, dr sh 5900 ft.

LOUISIANA GULF COAST

ACADIA PARISH—Superior Oil Co.'s J. S. Arceaneaux 1, 28-8s-3e, dk; Leo Kahn 1, 35-8s-3e, dr gbo 1576 ft; E. Mire 1, 33-8s-3e, rigging up; Richard Lovenski 1, 34-8s-3e, rigging up. Standard Oil Co. of Kansas, J. Nouton 1, Bosco prospect, ¾ mi s discovery well, 2420 ft n, 1440 ft e of swc of Section 34-8s-3e, dk. Woodley Pet. Co.'s Daigle 1, 27-7s-1e, dk.

BEAUREGARD PARISH — Humble O&R Co.'s Long Bell 1, 11-5s-7w, abn 9302 ft. F. W. Martin's Cochran 1, 34-4n-12w, dr sh 4038 ft. Federal Pet. Co.'s Lutcher Moore 1, approx. 3 mi nw of Lucas, 400 ft s and 467 ft e of nw c of Section 4-7s-12w, lcn.

CALCASIEU PARISH—Trio Oil Co.'s Grey 1, 33-9s-12w, prep to pump at 3500 ft. Union Sulphur Co.'s Barbe Est. 1, w of Lake Charles, 279 ft s, 250 ft w of ne c of se¼ of Section 11-9s-8w, lcn.

CAMERON PARISH—Texas Co.'s Calcasieu Lake 1, 1-14s-9w, dr gbo 1336 ft.

JEFFERSON DAVIS PARISH—Tide Water Oil Co.'s Aimea Bourgeois 1, Section 28-9s-5w, dr sandy sh 4400 ft.

LA FOURCHE PARISH—Ben Coyle's La Fourche Land Co. 1, approx. 4 mi s of Little Lake, 250 ft n, 150 ft w of se c of Section 32-18s-22e, lcn. R. L. Gay, Tr.'s, Cedchaux 1, near Raceland, 2920 ft n, 1746 ft e of common corner of Lots 33, 34, 26, of T 15s R 19e, dr sh 2100 ft.

ST. MARTINS PARISH—Texas Co.'s St. Martin Ld. Co. 6, 17-8s-7e, dr sh 5911 ft.

ST. LANDRY PARISH—Superior Oil Co.'s U. T. Iseringhousen 1, 35-8s-3e, rigging up; Marcellos Savoil 1, 27-8s-3e, dr sn 300 ft.

KANSAS

BARTON COUNTY — National Refining Co.'s Ingersoll 1, cne nw, 2-19s-13w, td 1810 ft, fsh. Walter Shearan et al's Kimpler 1, se ne ne 31-18s-11w, sd 300 ft. Atlantic Oil Production Co.'s Straud 1, cse ne 36-18s-11w, lcn. Harris-Haun & J. Bronke's Dietz 1, ne sw 21-16s-15w, material.

BUTLER COUNTY—L. C. Hay et al's Bolin 1-A, se sw se 36-26s-6e, td 2176 ft. Tom Palmer & Darby Oil Corporation's Harder 1, nw se nw 27-24s-3e, dr 3090 ft.

CLAY COUNTY—Seidel Bron's Glace 1, ne sw 21-9s-4e, spud 60 ft.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, sd 1355 ft.

FINNEY COUNTY—National Refining Co. et al's Smith 1, cse sw 2-23s-29w, sd orders.

KAY COUNTY—Trees Oil Co. & Derby Oil Co. et al's McMinn 1, nw sw ne 36-26n-1e, mit.

KINGMAN COUNTY—Kessler et al's Bollinger 1, sw nw sw 12-28s-5w, dr 1930 ft.

LYON COUNTY—Arkman & Baker's Hind 1-A, ne nw 30-21s-12e, 10 in cas 1002 ft, dr 1075 ft.

McPHERSON COUNTY — Continental Oil Co. et al's Graber 1, ne nw 34-21s-1w, chat 2906 ft, eight in cas 2926 ft, 2932-2936 ft ssg, 2950-2955 ft sw, 2955-2960 fe est 3M cu ft gas, td 3170 ft ur 8 in cas. Slick, Pryor and Lockhart's Ordineal 1, se sw se 21-20s-3w, Wilcox sand 3757-3772 ft, td cored no show, D&A. Tom Palmer's Nordling 1, se sw 19-18s-2w, chat 2858 ft, td. Marileen O&G Co. & Goering Brothers' Decker 1, nw se 20-18s-1w, rig.

OSBORNE COUNTY—Carmen & Hershey's Fritz 1, cne ne 9-10s-14w, dr 700 ft.

PHILLIPS COUNTY—Ashby et al's Close 1, cse¼ 24-5s-18w, 3450-3455 ft td, hfw, D&A.

RENO COUNTY—Sinclair Prairie Oil Co.'s Shepherd 1, se nw 22-26s-9w, 15 in cas 302 ft, td 305 ft, wocs. L. H. Wentz's Milcalf 1, se ne sw 3-24s-7w, 12 in cas 605 ft, dr 1232 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, cel. Atlantic Oil Producing Co.'s Phillips 1, ce½ nw ne 22-22s-6w, Lansing 2855 ft, dr 3290 ft.

RICE COUNTY—Langston et al's Markle 1, ne ne sw 1-20s-9w, 12 in cas 1194 ft, td co. Mid-Kansas O&G Co.'s Profitt 3, ne nw nw 5-20s-9w br. Aylward Trees et al's Belder 1, sw se ne 27-20s-7w, 10 in cas 1895 ft, 2395 ft hfw, td 2415 ft, rng eight in cas. Reserve Development Co.'s Heinz 1, ne sw se 8-18s-10w, Kansas City lime 2918 ft, eight in cas 2943 ft, 6 in cas 3075 ft, dr 3185 ft, so. Continental Oil Co., Empire Oil & Refining Co. & Shell Petroleum Corp.'s Bennett 1, cse ne 25-18s-8w, Lansing 2785 ft, 2880-2885 ft so, Simpson 3128 ft, 7 in cas 3130 ft, Siliceous 3132-3135 ft, td so, rust.

ROOKS COUNTY—Phillips Petroleum Co.'s Dopita 1, csw sw 31-8s-17w, 8 in cas 329 ft, 3312-3316 ft so, td 3317 ft, sd repairs.

RUSH COUNTY—Central States Light & Power Co.'s Basgall 1, sec 10-17s-16w, lcn.

RUSSELL COUNTY—Western Exploration Co.'s Andrea 1, swc 30-15s-12w, td 3387 ft, hfw, D&A.

SEDGWICK COUNTY—Sovereign Oil Co.'s Nichols 1, cnw se 20-25s-1w, 10 in cas 413 ft, dr 730 ft.

SUMNER COUNTY—Morgan & Flynn's Mercer 1, nw ne nw 36-32s-1w, td 1102 ft, rng 12 in cas.

STAFFORD COUNTY — Stanolind O&G Co.'s Denkler 1, 693 ft south and 330 ft east 10-22s-12w, ru.

TREGO COUNTY—Alma Petroleum Co. et al's Rhodes Estate 1, csw sw, 14-11s-23w, Oswald lime 3552 ft, 8 in cas 3550 ft, so 3565 ft, td, 3593 ft rust.

WOODSON COUNTY—Sheedy et al's Street 1, nw se nw 28-24s-14e, 8 in cas 1300 ft, 6 in cas 1663 ft, topped lime 1729 ft.

OKLAHOMA

ATOKA COUNTY—Malerenee et al's Greenville National Bank 1, nw sw 36-2s-13e, 8 in cas 1667 ft, show gas 1665-1677 ft, sd.

BECKHAM COUNTY—West Oak Gas Co. et al's Powell 1, nw nw sw 11-9n-25w, shut in for 18M cu ft gas, comp.

CADDO COUNTY—Denver P. & R. Co.'s Noe 1, nw sw sw 34-10n-10w, td 9982 ft, fsh for core head.

CARTER COUNTY—Hudson and Poland's Sullivan 1, ne se 5-5s-1w, spud 20 ft. George Pace et al's M. Jack 1, ne nw nw 10-4s-2w, sand 1680-1685 ft so, ur 6 in 1625 ft.

CLEVELAND COUNTY — Phillips Petroleum Co. et al's Community-Baker, cse nw 11-9n-2w, dr 1810 ft.

COAL COUNTY — Westheimer & Daube's Lowman 1, cne se 18-2n-8e, D&A. Moore & Deaner's Edwards 1, nw ne se 27-2n-8e, sand 4850-4861 ft slight so, dr 4874 ft in shale. Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, dr 3510 ft in lime.

COMANCHE COUNTY — Miller-Goodnight Drilling Co.'s Welderman 1, nw se se nw 34-2n-se sw 2-1n-13w, wtr 771-773 ft, dr 856 ft. Herden-Taylor's Crutcher 2, cne 11-1n-12w, td 1195 ft, co.

COTTON COUNTY—Ben Russell's Fowler 1, se nw 21-4s-12w, dr 1410 ft in shale.

HUGHES COUNTY—Scruggs et al's Black 1, nec 13-9n-10e, sd for orders. Burk-Kan's Gardner 1, ne ne nw 22-6n-9e, td 3860 ft D&A. J. B. Hill et al's Perkins 1-A, cw½ sw sw 7-5n-9e, 1025 ft sd for orders.

KINGFISHER COUNTY—Jadeka Development Co.'s Frankes 1, csw ne sw 16-15n-6w, dr 3068 ft.

KIOWA COUNTY—Dailey & Johnson Potts 1, sw nw 31-7n-14w, machine.

LEFLORE COUNTY—Murdock et al's Fee

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1, sw ne sw 15-5n-25e, 1525 ft sg, 2200 ft sg. East Oklahoma O&G Co.'s Metcalf 1, swc 2-4n-26e, dr 1492 ft.

LINCOLN COUNTY—Texas Co.'s Gessman 1, se ne 33-14n-4e, dr 2430 ft. Mid-Continent Petroleum Corp.'s Bolby 1, cse sw 27-12n-2e, mir.

LOGAN COUNTY—W. N. Anthony's Fruin-Eckman 1, se sw 4-16n-1e, rur.

McCLAIN COUNTY—Carter Oil Co. et al's Hanner 1, sw ne sw 24-5n-1w, Viola 6425 ft, dr 6464 ft. Denver P. & R. Co.'s Newborn 1, csw sw 22-5n-1e, top Bell City 3690 ft, sand 3930-3948 ft dry, dr 3982 ft.

MURRAY COUNTY—T. E. Revells et al's Wolfe 1, nec 18-1n-2e, shale 2250-2315 ft td, sd for 6 in liner. Gilcrease Oil Co.'s Brown 1, swc 26-1n-2e, dr 1600 ft.

NOBLE COUNTY—The Texas Co. et al's Voss 1, sw ne se 28-22n-2w, Layton sand 3752-3840 ft so, dr 3960 ft. Continental Oil Co. et al's Bennett 1, se nw 19-20n-1w, Perry gas show 3502 ft, core 3507-3525 ft no show gas, Layton sand 3820 ft, dr 4190 ft.

OKLAHOMA COUNTY—Gypsy Oil Co. et al's Community-Grant 1, cse nw 27-13n-4w, dr 4745 ft. Springrose Dev. Co.'s Edwards 1, cse se 19-11n-1e, repairing pumps.

OSAGE COUNTY—Empire Oil & Refining Co.'s 1, se ne 3-25n-3e, sandy lime 2240 ft, dr 2525 ft in sandy lime. Peters Petroleum Co. & Norbla O&G Co.'s 1, swc 15-25n-5e, dr 1255 ft. Norbla O&G Co.'s 1, nw se 31-24n-7e, dr 250 ft.

PAWNEE COUNTY — George Thomas' School land 1, swc 13-20n-5e, 2185 ft Cleveland sand, 2747-2803 ft so and gas.

PITTSBURG COUNTY—Stencil O&G Co.'s Chunn 1, se se nw 29-4n-14e, dr 300 ft.

PONTOTOC COUNTY — Riddle et al's Barnes 1, se nw se 21-5n-4e, dr 600 ft. Boyle et al's Newbern 1, sw ne 31-5n-4e, dr 1390 ft. Emanuel, Rudman & Natcher's Mayer 1, csw se nw 7-3n-8e, base sand 1220 ft, td 1250 ft, set 8 in cas 1246 ft. Dandridge et al's Stafford 1, nwc 5-1n-6e, 10 in cas 623 ft. Paul R. Robb's (owdd) Vittetoe 1, cne se 11-5s-4e, dr 4913 ft black slate.

POTTAWATOMIE COUNTY—Stanolind O. & G. Co.'s Amerada Petroleum Co.'s Goodman 1, sw ne ne 5-10n-4e, lcn.

SEMINOLE COUNTY—Tate & Starbuck's Heard 1-A, se nw 9-6n-7e, dr 985 ft.

STEPHENS COUNTY—George Pace et al's Siever 1, se sw 4-1n-7w, D&A.

NORTH LOUISIANA

BIENVILLE PARISH—Hibeltha Oil Co.'s Woodward 1, nw nw 26-15n-9w, dr 1055 ft.

BOSSIER PARISH — John L. Anderson, Tr.'s, Leonard 1, sw sw 19-19n-13w, dr 3270 ft. Bossier O&G Co. Inc.'s B. A. Sherrell 2, ne ne 13-19n-12w, sd 2260 ft.

CADDO PARISH—Chief Ref. Co.'s (formerly J. T. Humphrey et al), J. C. Powell 1, nw se 14-19n-15w, tested dry at 2403 ft, arr deepen. R. W. Norton's French B-1, nw nw 34-23n-16w, set 3-in cas at 5600 ft after plug back from td 6717 ft.

CALDWELL PARISH—Terrell & Price's Serv. Co. et al's Carter Unit 1, 32-20n-5w, dr 2620 ft.

CLAIBORNE PARISH—United Gas Pub. Serv. Co. et al's Carter Unit 1, 32-20n-5w, dr 3760 ft.

DE SOTO PARISH—L. H. Alderson's P. B. Peak 1, nw ne 25-11n-13w, dry used acid at 1698 ft. S. J. Barber's Horton 1, sw sw 4-11n-11w, sr td 2735 ft. R. E. Collins' A. M. Thigpen 1, nw ne 29-15n-12w, dr 1535 ft. Jack Dempsey's Thigpen 1, sw ne 33-13n-13w, dr 1600 ft. Hirschfield Bailey et al's C. S. Youngblood 1, ne ne 9-11n-14w, dr 1225 ft. George Le Grand's D. T. Fulmer 1, nw sw 1-11n-16w, dr 1005 ft. E. T. Oakes' Johnson 1, ne nw 30-13n-15w, core limey shale 5132 ft. J. S. Tuffree's McGill et al 1, sw se 1-10n-13w, sd 2120 ft.

GRANT PARISH — L. L. Lindsay, Jr.'s, Edenborn 1, se se 13-7n-4w, fsh ds td 2360 ft.

MOREHOUSE PARISH—Zeigen & Bacon's Crossett Lbr. Co. 1, 41-23n-6e, sd 2535 ft.

NATCHITOCHES PARISH—Missouri Drilling Co.'s Brown Lbr. Co. 1, se se 5-10n-10w, sp set surf cas. Penn Southern Pet. Co.'s Chopin Lbr. Co. 1, ne sw 4-5n-5w, dr 2620 ft. Plummer & McDaniel's Lizzie Walmsley 1, se sw 45-10n-8w, sp dr 610 ft. J. B. Storey, Tr.'s, W. W. Page Est. 1, se nw 18-8n-9w, missed ds test in 12 ft sand 1447-59 ft, repr dk, td 1480 ft.

RED RIVER PARISH—A. D. Mytilen's La. Delta Pecan Co. 1, 27-13n-11w, sd 857 ft.

SABINE PARISH—G. H. Collins' Bellieu & Carter 1, nw sw 21-9n-13w, rig. R. L. Gay, Tr.'s, Long-Bell Lbr. Co. A-1, nw nw 10-8n-13w, plugging back to 4757 ft. M. J. Kissick's Barr 1, sw se 6-4n-12w, top Midway 3100 ft, dr 3350 ft; Sirmon 1, sw se 11-4n-13w, move in rig. George L. Pace's DeSoto Corp. 1, ne sw 27-10n-13w, rig.

ARKANSAS

COLUMBIA COUNTY—O. F. Whittaker's C. C. Hall 1, se ne 10-15-20, rig up and sd.

HEMPSTEAD COUNTY—A. G. Bagnall et al's Rhienhart 1, sw sw 2-13s-26w, sd 1425 ft. Clarco O&R Co.'s Jones 1, ne se 11-14-24, rig.

LA FAYETTE COUNTY—Douglas Lawn's Camp 1, sw se 14-15-23, sd 1619 ft. C. V. Lenz' L. A. Foster 1, ne se 9-15-25, sd for fuel 2620 ft.

LITTLE RIVER COUNTY—M. E. Sanderson's Hale 1, se se 22-12s-32w, sd 2040 ft.

MILLER COUNTY—Duluth-Arkansas Oil Co.'s Beck 2, se sw 34-15-26, blg td 2811 ft. King Oil Corp.'s C. H. Schroeder 1, sw ne 24-14-28, wo larger rig, td 2000 ft. W. F. Lacey's Gibson 1, sw nw 30-19-27, materials. C. E. Murdock's Beck 1, se se 33-15-26, wosr, td 2929 ft. Frank Roes Olivet 1, ne se 4-16-26, dr 2940 ft. Thorn Tree Oil Co.s H. E. Beck 1, sw sw 34-15-26, swabbing 2923 ft. (formerly carried Texarkana Oil Corp.). Lee Timberlakes E. L. Beck 1, nw se 33-15-26, dr 1890 ft. J. K. Wadley et als Deckerman 1, sw nw 24-17-27, dr 4125 ft. Jno Wrather's E. V. Olivet 1, nw ne 4-16-26, materials. E. L. Young et al's R. M. Patterson 1, se ne 5-19-28, hole cleaned wo cas, after claiming oil sand, td 3667 ft.

UNION COUNTY—E. R. Henderson's Ogden 1, 32-18-14, blg after using acid, td 2208 ft.

MISSISSIPPI

AMITE COUNTY — Mineral Resources, Inc.'s, Anderson 1, ne nw 14-3n-3e, dr 805 ft.

FRANKLIN COUNTY — E. R. Ratcliff's Homochitto Lbr. Co. 1, se se 20-5n-2e, dr 3029 ft.

GREENE COUNTY—United Gas Pub. Serv. Co.'s Davis 1, nw nw 30-1n-5w, dr chalk 6306 ft.

ISSAQUENA COUNTY—Pelican Oil & Gas Co.'s Steel Bayou Corp. 1, sw nw 14-12n-8w, dr 500 ft.

MADISON COUNTY—H. A. Wilson, Tr.'s, Cepek 1, sw ne 24-9n-3e, re-infc dk, td 2300 ft.

NEWTON COUNTY — Dalton Dev. Co.'s Majure 2, 25-6n-11e, co td 3350 ft chalk.

PEARL RIVER COUNTY—Gulf Ref. Co.'s May L. Williams 1, se ne 35-5s-17w, dr 3920 ft.

SIMPSON COUNTY—Berry Corp.'s R. T. Berry 2, sw sw 33-2n-4e, sp set surf cas.

WALTHALL COUNTY—Mutual O&G Co.'s Boyd 1, sw sw 19-2n-10e, rig.

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, core sand slight show gas 1159 ft, arr dr deeper.

PIKE COUNTY—Bill Rowe et al's Bank of Troy 1, 36-10-21e, lcn.

TENNESSEE

HAYWOOD COUNTY—E. R. Henderson et al's Fee 1, rig.

WYOMING

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, csw sw 19-20n-89w, 200 bbl. show of light oil in muddy sand at 4540 ft, dr below 4550 ft for Dakota sand. M. K. Queally's Albert 1, se sw 17-25n-79w, mcv in.

ALBANY COUNTY—Ohio Oil Co.'s Chappell 1, sw nw 28-21n-76w, dr 1700 ft.

CROOK COUNTY—Dr. W. G. Earle's Kara 2, sw nw sw 31-49n-67w, lcn.

LINCOLN COUNTY—H. M. Eller's Gov't 2, ne ne sw 32-19n-116w, Cumberland district, lcn.

WESTON COUNTY—Gibson Oil Synd's C. H. Payton 1, cne nw 23-44n-63w, Beaver Valley structure, lcn.

NEW MEXICO

EDDY COUNTY — Ralph Spearow et al's McClelland 1, sw nw ne 22-22s-23e, Indian Creek structure, standing cemented at 4098 ft. Stovall & Marshall's McIlvain 1, se ne 5-25s-27e, Delaware district, dry 2367 ft with hole full of water.

SAN MIGUEL COUNTY—Starr-Kenedy Oil Co.'s Adamas 3, 25-17-16, rig destroyed by fire with hole bottomed at 5093 ft. Operators have not yet decided whether to go on with test or abandon.

MONTANA

JUDITH BASIN COUNTY—F. E. Hunt's Hobson, se sw 20-14n-15e, Judith Basin structure, mov in.

TETON COUNTY—California Co.'s Radgan 1, ne se nw 20-27n-5w, Pendroy district, sp.

LIBERTY COUNTY—Shebal, Rehal, Hayes, et al's Strode 1, se nw 3-36n-4e, dry 1675 ft

COLORADO

GRAND COUNTY—Colorado Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, dr 100 ft.

MONTEZUMA COUNTY—McElmo Oil Co.'s West 1, ne nw ne 31-36n-17w, resuming from 1751 ft.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-75w, mov on. Elevation 9393 ft, highest elevation of any well drilled or drilling in Mountain States.

PROWERS COUNTY—Trojan Oil & Gas Co.'s Lotus 1, nw ne ne 15-23s-46w, set 10-in. at 2160 ft with hole sr to bottom at 2570 ft.

ROUT COUNTY—Texas Co.'s Sampson 1, sw ne se 2-1s-85w, King Mountain Dome, lcn.

CALIFORNIA

KERN COUNTY

BUNA VISTA LAKE—Ohio Oil Co.'s K.C. L. 1, 31-31-26 dr sd and sh shg gas, 7880 ft.

BUENA VISTA HILLS — Comanche Oil Co.'s 1, 15-32-29 sd, 3387 ft. Metropolitan Dev. Co. No. 1, sec. 23-32-29, rig, rotary.

DUFF AREA—Monterey Exploration Co.'s Duff 3, 15-30-29, plugged to 3280 ft, flg 500 bbls, 22.1, gravity. Nozu 1, foundation. A. T. Jergins' Hay 1, 22-30-29, rig.

EDISON DISTRICT—Cara Vel Pet. Corp.'s No. 1, 19-30-31, dr 1632 ft, shg oil, gas. Mountain View Dev. Corp.'s Spangler 1, 12-30-28, bldg rig at old Cy Wicker hole.

LOST HILLS—Associated Oil Co.'s Williamson 1, sec 2-26-20, susp.

McKITTRICK — Shell Oil Co.'s Midway-Premier 1, 21-29-21, dr 4440 ft. Standard Oil Co.'s No. 45, 15-30-22, dr gr sh, 2470 ft. Welport Oil Co.'s No. 105, 26-29-21, stg cmted, td 1049 ft.

NORTH MIDWAY—Midway Peak Oil Co., No. 1, 3-32-22, rig.

SEMITROPIC—S. T. Alexander's Shields 1, 29-25-2, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Welton's Harris 1, sec 35-11-23, landed 8¼ in 315 ft.

TEMBLOR HILLS—Robert Foster's Well 1, 2-32-22, dr sh 480 ft.

UNION AVENUE—Alta Oil Corp.'s N-C 1, 6-30-28, td 6457 ft plg 4040 ft. Perf 6¼ in 3840-60 ft. Pumping 35 bbls, 18 grav oil.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-11-19, sd 6000 ft.

KINGS COUNTY

TULARE LAKE—Armadillo Gas Co.'s No. 1, 32-22-30, dr 1700 ft. Commonwealth Consol's No. 1, 21-22-20, clo 1581 ft. Tulare Basin Gas Co.'s No. 2, 2-23-19, stg recmtd. Td 1208 ft.

AVENAL—Carl Weller's Baby King 2, 11-23-16, sd 892 ft.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, dr 2650 ft.

SAN JOAQUIN VALLEY

TRACY—Milham Explo. Co.'s Connolly 1, 5-4-5, tst 4437-4518 ft. No shg. dr 4519 ft.

SANTA BARBARA COUNTY

GOLETA — Midland Pet. Corp.'s Simonds C-1, 9-4-29, dr 2710 ft shg oil and gas.

LOMPOC—Lompoc Pet Co.'s Beauterbaugh 1, 18-7-34, co 2432 ft to core.

SANTA MARIA—Union Oil Co.'s Rice 1, 19-10-33 lcn. Moreti 1, 24-10-34, rig.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, sd 3060 ft.

FILLMORE—Laing & Jacob's Snodgrass 1, 32-4-19, sd 700 ft.

HOPPER CANYON—Hancock Oil Co.'s Hadley 5, 13-4-19, sd 3357 ft. Oak Ridge Oil Co.'s Moran 3, 1-4-19, dr tar sd 846 ft.

LAS POSAS—Las Posas Pet Co.'s Mahan 1, 22-3-20, dr 6460 ft stks oil sd.

OJAI—Garner Royalties Co.'s No. 1, 12-4-20, running tbg 1543 ft to test.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, sd 2497 ft. Piru Oil Co.'s Holser 1, 14-4-18, spud.

RINCON—Woodrow Pet. Corp's Woodrow 1, 4-3-24, sd 7615 ft.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr 1968 ft shg oil and gas.

SESPE—H. A. Ivers' No. 1, 1-4-20, dr 780 ft. Merchants Pet Co.'s Cochran 4, 1-4-20, rm to 400 ft set surface csg. Td 1280 ft. Topa Topa Oil Co.'s No. 1, 35-5-19, rig. Cable tools 3090 ft.

SIMI—American Drilling Co.'s No. 1, 6-2-17, dr shale, 200 ft. Pomoc Oil Co.'s No. 1, 8-2-17, spd. Williamson & Danaker's No. 1, 36-3-18, sd 956 ft.

SULPHUR MOUNTAIN—Wm. A. Kirk's No. 5, 21-4-22, sd 1770 ft.

MISCELLANEOUS

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Mr. Eyoub, a technical man and a graduate of an American technical university, has had considerable experience in Mexico and the United States. He has contributed technical articles to THE OIL WEEKLY.

No More Wildcatting In British Columbia

British Columbia has withdrawn petroleum lands in the Peace River district from private development due to the government's practice of assisting in the development of oil lands as part of its unemployment relief program.

Argentina Government Production in 1933

Yacimientos Petroliferas Fiscales, the government agency of Argentina, produced 42.8 percent of Argentina's oil in 1933, the remainder being produced by private companies. Total recovery of petroleum in Argentina in 1933 amounted to 13,690,555 barrels.

This 'short-cut' location *saves* Time *and* Money *in* New York . . .

The Piccadilly is "close to everything." Ninety per cent of your calls are within a few minutes' radius of this new hotel, and its short-cut location will save time (and taxi fare) in covering the town.

And when you need relaxation, you are right in the center of theatres and amusements . . . to say nothing of the Piccadilly's own "Silver Lining" Cocktail Room *Perfect*. De luxe dinner or supper, with dancing in the Georgian Room, for one dollar!

The Treasurer himself will applaud your keen sense of values in choosing this hotel, where comfortable rooms and delicious meals are bargains.

RATES FROM

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ROOM WITH BATH
450 Outside Rooms

Hotel PICCADILLY

45TH STREET, WEST OF BROADWAY

NOW UNDER ARTHUR LEE DIRECTION

1, sw ne sw 15-5n-25e, 1525 ft sg, 2200 ft sg. East Oklahoma O&G Co.'s Metcalf 1, swc 2-4n-26e, dr 1492 ft.

LINCOLN COUNTY—Texas Co.'s Gessman 1, se ne 33-14n-4e, dr 2430 ft. Mid-Continent Petroleum Corp.'s Bolby 1, cse sw 27-12n-2e, mir.

LOGAN COUNTY—W. N. Anthony's Fruin-Eckman 1, se sw 4-16n-1e, rur.

McCLAIN COUNTY—Carter Oil Co. et al's Hanner 1, sw ne sw 24-5n-1w, Viola 6425 ft, dr 6464 ft. Denver P. & R. Co.'s Newborn 1, csw sw 22-5n-1e, top Bell City 3690 ft, sand 3930-3948 ft dry, dr 3982 ft.

MURRAY COUNTY—T. E. Revells et al's Wolfe 1, nec 18-1n-2e, shale 2250-2315 ft td, sd for 6 in liner. Gilcrease Oil Co.'s Brown 1, swc 26-1n-2e, dr 1600 ft.

NOBLE COUNTY—The Texas Co. et al's Voss 1, sw ne se 28-22n-2w, Layton sand 3752-3840 ft so, dr 3960 ft. Continental Oil Co. et al's Bennett 1, se nw 19-20n-1w, Perry gas show 3502 ft, core 3507-3525 ft no show gas, Layton sand 3820 ft, dr 4190 ft.

OKLAHOMA COUNTY—Gypsy Oil Co. et al's Community-Grant 1, cse nw 27-13n-4w, dr 4745 ft. Springrose Dev. Co.'s Edwards 1, cse se 19-11n-1e, repairing pumps.

OSAGE COUNTY—Empire Oil & Refining Co.'s 1, se ne 3-25n-3e, sandy lime 2240 ft, dr 2525 ft in sandy lime. Peters Petroleum Co. & Norbla O&G Co.'s 1, swc 15-25n-5e, dr 1255 ft. Norbla O&G Co.'s 1, nw se 31-24n-7e, dr 250 ft.

PAWNEE COUNTY — George Thomas' School land 1, swc 13-20n-5e, 2185 ft Cleveland sand, 2747-2803 ft so and gas.

PITTSBURG COUNTY—Stencil O&G Co.'s Chunn 1, se se nw 29-4n-14e, dr 300 ft.

PONTOTOC COUNTY — Riddle et al's Barnes 1, se nw se 21-5n-4e, dr 600 ft. Boyle et al's Newbern 1, sw ne 31-5n-4e, dr 1390 ft. Emanuel, Rudman & Natcher's Mayer 1, csw se nw 7-3n-8e, base sand 1220 ft, td 1250 ft, set 8 in cas 1246 ft. Dandridge et al's Stafford 1, nwc 5-1n-6e, 10 in cas 623 ft. Paul R. Robb's (owdd) Vittetoe 1, cne se 11-5s-4e, dr 4913 ft black slate.

POTTAWATOMIE COUNTY—Stanolind O. & G. Co.'s Amerada Petroleum Co.'s Goodman 1, sw ne ne 5-10n-4e, lcn.

SEMINOLE COUNTY—Tate & Starbuck's Heard 1-A, se nw 9-6n-7e, dr 985 ft.

STEPHENS COUNTY—George Pace et al's Siever 1, se sw 4-1n-7w, D&A.

NORTH LOUISIANA

BIENVILLE PARISH—Hibeltha Oil Co.'s Woodward 1, nw nw 26-15n-9w, dr 1055 ft.

BOSSIER PARISH — John L. Anderson, Tr.'s, Leonard 1, sw sw 19-19n-13w, dr 3270 ft. Bossier O&G Co. Inc.'s B. A. Sherrell 2, ne ne 13-19n-12w, sd 2260 ft.

CADDO PARISH—Chief Ref. Co.'s (formerly J. T. Humphrey et al), J. C. Powell 1, nw se 14-19n-15w, tested dry at 2403 ft, arr deepen. R. W. Norton's French B-1, nw nw 34-23n-16w, set 3-in cas at 5600 ft after plug back from td 6717 ft.

CALDWELL PARISH—Terrell & Price's Serv. Co. et al's Carter Unit 1, 32-20n-5w, dr 2620 ft.

CLAIBORNE PARISH—United Gas Pub. Serv. Co. et al's Carter Unit 1, 32-20n-5w, dr 3760 ft.

DE SOTO PARISH—L. H. Alderson's P. B. Peak 1, nw ne 25-11n-13w, dry used acid at 1698 ft. S. J. Barber's Horton 1, sw sw 4-11n-11w, sr td 2735 ft. R. E. Collins' A. M. Thigpen 1, nw ne 29-15n-12w, dr 1535 ft. Jack Dempsey's Thigpen 1, sw ne 33-13n-13w, dr 1600 ft. Hirschfield Bailey et al's C. S. Youngblood 1, ne ne 9-11n-14w, dr 1225 ft. George Le Grand's D. T. Fulmer 1, nw sw 1-11n-16w, dr 1005 ft. E. T. Oakes' Johnson 1, ne nw 30-13n-15w, core limey shale 5132 ft. J. S. Tuffree's McGill et al 1, sw se 1-10n-13w, sd 2120 ft.

GRANT PARISH — L. L. Lindsay, Jr.'s, Edenborn 1, se se 13-7n-4w, fsh ds td 2360 ft.

MOREHOUSE PARISH—Zeigen & Bacon's Crossett Lbr. Co. 1, 41-23n-6e, sd 2535 ft.

NATCHITOCHES PARISH—Missouri Drilling Co.'s Brown Lbr. Co. 1, se se 5-10n-10w, sp set surf cas. Penn Southern Pet. Co.'s Chopin Lbr. Co. 1, ne sw 4-5n-5w, dr 2620 ft. Plummer & McDaniel's Lizzie Walmsley 1, se sw 45-10n-8w, sp dr 610 ft. J. B. Storey, Tr.'s, W. W. Page Est. 1, se nw 18-8n-9w, missed ds test in 12 ft sand 1447-59 ft, repr dk, td 1480 ft.

RED RIVER PARISH—A. D. Mytilen's La. Delta Pecan Co. 1, 27-13n-11w, sd 857 ft.

SABINE PARISH—G. H. Collins' Bellieu & Carter 1, nw sw 21-9n-13w, rig. R. L. Gay, Tr.'s, Long-Bell Lbr. Co. A-1, nw nw 10-8n-13w, plugging back to 4757 ft. M. J. Kissick's Barr 1, sw se 6-4n-12w, top Midway 3100 ft, dr 3350 ft; Sirmon 1, sw se 11-4n-13w, move in rig. George L. Pace's DeSoto Corp. 1, ne sw 27-10n-13w, rig.

ARKANSAS

COLUMBIA COUNTY—O. F. Whittaker's C. C. Hall 1, se ne 10-15-20, rig up and sd.

HEMPSTEAD COUNTY—A. G. Bagnall et al's Rhienhart 1, sw sw 2-13s-26w, sd 1425 ft. Clarco O&R Co.'s Jones 1, ne se 11-14-24, rig.

LA FAYETTE COUNTY—Douglas Lawn's Camp 1, sw se 14-15-23, sd 1619 ft. C. V. Lenz' L. A. Foster 1, ne se 9-15-25, sd for fuel 2620 ft.

LITTLE RIVER COUNTY—M. E. Sanderson's Hale 1, se se 22-12s-32w, sd 2040 ft.

MILLER COUNTY—Duluth-Arkansas Oil Co.'s Beck 2, se sw 34-15-26, blg td 2811 ft. King Oil Corp.'s C. H. Schroeder 1, sw ne 24-14-28, wo larger rig, td 2000 ft. W. F. Lacey's Gibson 1, sw nw 30-19-27, materials. C. E. Murdock's Beck 1, se se 33-15-26, wosr, td 2929 ft. Frank Roes Olivet 1, ne se 4-16-26, dr 2940 ft. Thorn Tree Oil Co.s H. E. Beck 1, sw sw 34-15-26, swabbing 2923 ft. (formerly carried Texarkana Oil Corp.). Lee Timberlakes E. L. Beck 1, nw se 33-15-26, dr 1890 ft. J. K. Wadley et als Deckerman 1, sw nw 24-17-27, dr 4125 ft. Jno Wrather's E. V. Olivet 1, nw ne 4-16-26, materials. E. L. Young et al's R. M. Patterson 1, se ne 5-19-28, hole cleaned wo cas, after claiming oil sand, td 3667 ft.

UNION COUNTY—E. R. Henderson's Ogden 1, 32-18-14, blg after using acid, td 2208 ft.

MISSISSIPPI

AMITE COUNTY — Mineral Resources, Inc.'s, Anderson 1, ne nw 14-3n-3e, dr 805 ft.

FRANKLIN COUNTY — E. R. Ratcliff's Homochitto Lbr. Co. 1, se se 20-5n-2e, dr 3029 ft.

GREENE COUNTY—United Gas Pub. Serv. Co.'s Davis 1, nw nw 30-1n-5w, dr chalk 6306 ft.

ISSAQUENA COUNTY—Pelican Oil & Gas Co.'s Steel Bayou Corp. 1, sw nw 14-12n-8w, dr 500 ft.

MADISON COUNTY—H. A. Wilson, Tr.'s, Cepek 1, sw ne 24-9n-3e, re-infc dk, td 2300 ft.

NEWTON COUNTY — Dalton Dev. Co.'s Majure 2, 25-6n-11e, co td 3350 ft chalk.

PEARL RIVER COUNTY—Gulf Ref. Co.'s May L. Williams 1, se ne 35-5s-17w, dr 3920 ft.

SIMPSON COUNTY—Berry Corp.'s R. T. Berry 2, sw sw 33-2n-4e, sp set surf cas.

WALTHALL COUNTY—Mutual O&G Co.'s Boyd 1, sw sw 19-2n-10e, rig.

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, core sand slight show gas 1159 ft, arr dr deeper.

PIKE COUNTY—Bill Rowe et al's Bank of Troy 1, 36-10-21e, lcn.

TENNESSEE

HAYWOOD COUNTY—E. R. Henderson et al's Fee 1, rig.

WYOMING

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, csw sw 19-20n-89w, 200 bbl. show of light oil in muddy sand at 4540 ft, dr below 4550 ft for Dakota sand. M. K. Queally's Albert 1, se sw 17-25n-79w, mov in.

ALBANY COUNTY—Ohio Oil Co.'s Chappell 1, sw nw 28-21n-76w, dr 1700 ft.

CROOK COUNTY—Dr. W. G. Earle's Kara 2, sw nw sw 31-49n-67w, lcn.

LINCOLN COUNTY—H. M. Eller's Gov't 2, ne ne sw 32-19n-116w, Cumberland district, lcn.

WESTON COUNTY—Gibson Oil Synd's C. H. Payton 1, cne nw 23-44n-63w, Beaver Valley structure, lcn.

NEW MEXICO

EDDY COUNTY — Ralph Spearow et al's McClelland 1, sw nw ne 22-22s-23e, Indian Creek structure, standing cemented at 4098 ft. Stovall & Marshall's McIlvain 1, se ne 5-25s-27e, Delaware district, dry 2367 ft with hole full of water.

SAN MIGUEL COUNTY—Starr-Kenedy Oil Co.'s Adamas 3, 25-17-16, rig destroyed by fire with hole bottomed at 5093 ft. Operators have not yet decided whether to go on with test or abandon.

MONTANA

JUDITH BASIN COUNTY—F. E. Hunt's Hobson, se sw 20-14n-15e, Judith Basin structure, mov in.

TETON COUNTY—California Co.'s Radigan 1, ne se nw 20-27n-5w, Pendroy district, sp.

LIBERTY COUNTY—Shebal, Rehal, Hayes, et al's Strode 1, se nw 3-36n-4e, dry 1675 ft

COLORADO

GRAND COUNTY—Colorado Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, dr 100 ft.

MONTEZUMA COUNTY—McElmo Oil Co.'s West 1, ne nw ne 31-36n-17w, resuming from 1751 ft.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-75w, mov on. Elevation 9393 ft, highest elevation of any well drilled or drilling in Mountain States.

PROWERS COUNTY—Trojan Oil & Gas Co.'s Lotus 1, nw ne ne 15-23s-46w, set 10-in. at 2160 ft with hole sr to bottom at 2570 ft.

ROUT COUNTY—Texas Co.'s Sampson 1, sw ne se 2-1s-85w, King Mountain Dome, lcn.

CALIFORNIA

KERN COUNTY

BUNA VISTA LAKE—Ohio Oil Co.'s K.C. L. 1, 31-31-26 dr sd and sh shg gas, 7880 ft.

BUENA VISTA HILLS — Comanche Oil Co.'s 1, 15-32-29 sd, 3387 ft. Metropolitan Dev. Co. No. 1, sec. 23-32-29, rig, rotary.

DUFF AREA—Monterey Exploration Co.'s Duff 3, 15-30-29, plugged to 3280 ft, flg 500 bbls, 22.1, gravity. Nozu 1, foundation. A. T. Jergins' Hay 1, 22-30-29, rig.

EDISON DISTRICT—Cara Vel Pet. Corp.'s No. 1, 19-30-31, dr 1632 ft, shg oil, gas. Mountain View Dev. Corp.'s Spangler 1, 12-30-28, bldg rig at old Cy Wicker hole.

LOST HILLS—Associated Oil Co.'s Williamson 1, sec 2-26-20, susp.

McKITTRICK — Shell Oil Co.'s Midway-Premier 1, 21-29-21, dr 4440 ft. Standard Oil Co.'s No. 45, 15-30-22, dr gr sh, 2470 ft. Welport Oil Co.'s No. 105, 26-29-21, stg cmted, td 1049 ft.

NORTH MIDWAY—Midway Peak Oil Co., No. 1, 3-32-22, rig.

SEMITROPIC—S. T. Alexander's Shields 1, 29-25-2, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Welton's Harris 1, sec 35-11-23, landed 8¼ in 315 ft.

TEMBLOR HILLS—Robert Foster's Well 1, 2-32-22, dr sh 480 ft.

UNION AVENUE—Alta Oil Corp.'s N-C 1, 6-30-28, td 6457 ft plg 4040 ft. Perf 6¼ in 3840-60 ft. Pumping 35 bbls, 18 grav oil.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-11-19, sd 6000 ft.

KINGS COUNTY

TULARE LAKE—Armadillo Gas Co.'s No. 1, 32-22-30, dr 1700 ft. Commonwealth Consol's No. 1, 21-22-20, clo 1581 ft. Tulare Basin Gas Co.'s No. 2, 2-23-19, stg recmtd. Td 1208 ft.

AVENAL—Carl Weller's Baby King 2, 11-23-16, sd 892 ft.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, dr 2650 ft.

SAN JOAQUIN VALLEY

TRACY—Milham Explo. Co.'s Connolly 1, 5-4-5, tst 4437-4518 ft. No shg. dr 4519 ft.

SANTA BARBARA COUNTY

GOLETA — Midland Pet. Corp.'s Simonds C-1, 9-4-29, dr 2710 ft shg oil and gas.

LOMPOC—Lompoc Pet Co.'s Beauterbaugh 1, 18-7-34, co 2432 ft to core.

SANTA MARIA—Union Oil Co.'s Rice 1, 19-10-33 lcn. Moreti 1, 24-10-34, rig.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, sd 3060 ft.

FILLMORE—Laing & Jacob's Snodgrass 1, 32-4-19, sd 700 ft.

HOPPER CANYON—Hancock Oil Co.'s Hadley 5, 13-4-19, sd 3357 ft. Oak Ridge Oil Co.'s Moran 3, 1-4-19, dr tar sd 846 ft.

LAS POSAS—Las Posas Pet Co.'s Mahan 1, 22-3-20, dr 6460 ft stks oil sd.

OJAI—Garner Royalties Co.'s No. 1, 12-4-20, running tbg 1543 ft to test.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, sd 2497 ft. Piru Oil Co.'s Holser 1, 14-4-18, spud.

RINCON—Woodrow Pet. Corp's Woodrow 1, 4-3-24, sd 7615 ft.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr 1968 ft shg oil and gas.

SESPE—H. A. Ivers' No. 1, 1-4-20, dr 780 ft. Merchants Pet Co.'s Cochran 4, 1-4-20, rm to 400 ft set surface csg. Td 1280 ft. Topa Topa Oil Co.'s No. 1, 35-5-19, rig. Cable tools 3090 ft.

SIMI—American Drilling Co.'s No. 1, 6-2-17, dr shale, 200 ft. Pomoc Oil Co.'s No. 1, 8-2-17, spd. Williamson & Danaker's No. 1, 36-3-18, sd 956 ft.

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Crew from Texas Starts Oil Test in Turkey

A crew of five Texans are preparing to drill a test near Mersin, the port of Mardin region, Turkey, according to a letter received from Djevad Eyoub, director of petroleum exploration and exploitation for the Republic of Turkey.

Mr. Eyoub, a technical man and a graduate of an American technical university, has had considerable experience in Mexico and the United States. He has contributed technical articles to THE OIL WEEKLY.

No More Wildcatting In British Columbia

British Columbia has withdrawn petroleum lands in the Peace River district from private development due to the government's practice of assisting in the development of oil lands as part of its unemployment relief program.

Argentina Government Production in 1933

Yacimientos Petroliferas Fiscales, the government agency of Argentina, produced 42.8 percent of Argentina's oil in 1933, the remainder being produced by private companies. Total recovery of petroleum in Argentina in 1933 amounted to 13,690,555 barrels.

This 'short-cut' location *saves* Time *and* Money *in* New York . . .

The Piccadilly is "close to everything." Ninety per cent of your calls are within a few minutes' radius of this new hotel, and its short-cut location will save time (and taxi fare) in covering the town.

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NEWS *from the* *Industry's* EQUIPMENT MAKERS

Spargo Joins Pittsburgh Equitable Sales Force

E. E. Spargo has joined the sales force of Pittsburgh Equitable Meter Company. He will specialize in liquid meter sales. Spargo was formerly with Fry Equipment Corporation, Wayne Pump Company, and Pennsylvania Pump Company. He will be located at New York and will cover the Eastern territory.

O-C-T Increases Capitalization To Keep Pace With Growth

Oil Center Tool Company, Houston, announces an increase in capitalization to $100,000, which represents an increase from an original $10,000 capitalization within the past five years.

A. J. Penick, president, and K. T. Penick, secretary-treasurer, organizers of Oil Center Tool Company, are the sole owners except for minority stock owned by employees.

The increase in production capacity of the O-C-T plant far exceeds the proportionate increase in the organization's capitalization. It ranks among the complete shops in the Southwest, and is equipped with one of the most thorough testing laboratories. Expanding from the original line of forged steel high pressure fittings, Oil Center Tool Company now manufactures every item going into Christmas-tree hook-ups except the valves, having a wide variety of tubing heads, braden heads and blowout preventers to meet the various drilling and production conditions. An assembling and testing department for complete Christmas-trees is maintained, and O-C-T products have been made available through supply companies to any point in the world.

Southern States Company Moves Offices to Dallas

The Southern States Company, Inc., has moved its offices from the Slattery Building, Shreveport, Louisiana, to 1113 Tower Petroleum Building, Dallas, Texas. The change was made to facilitate the serving of high-pressure properties, the company has announced.

Appleman Service Names Seales As New Officer

Authorized Appleman Bit Service Company, Houston, has announced appointment of U. V. Seales as secretary, treasurer and assistant general manager. He comes to the organization with five years of experience in the machine shop business, and after nine years with oil companies. Following his shop service in Central West Texas he joined the staff of Associated Oil Company in Houston. In 1929 he joined

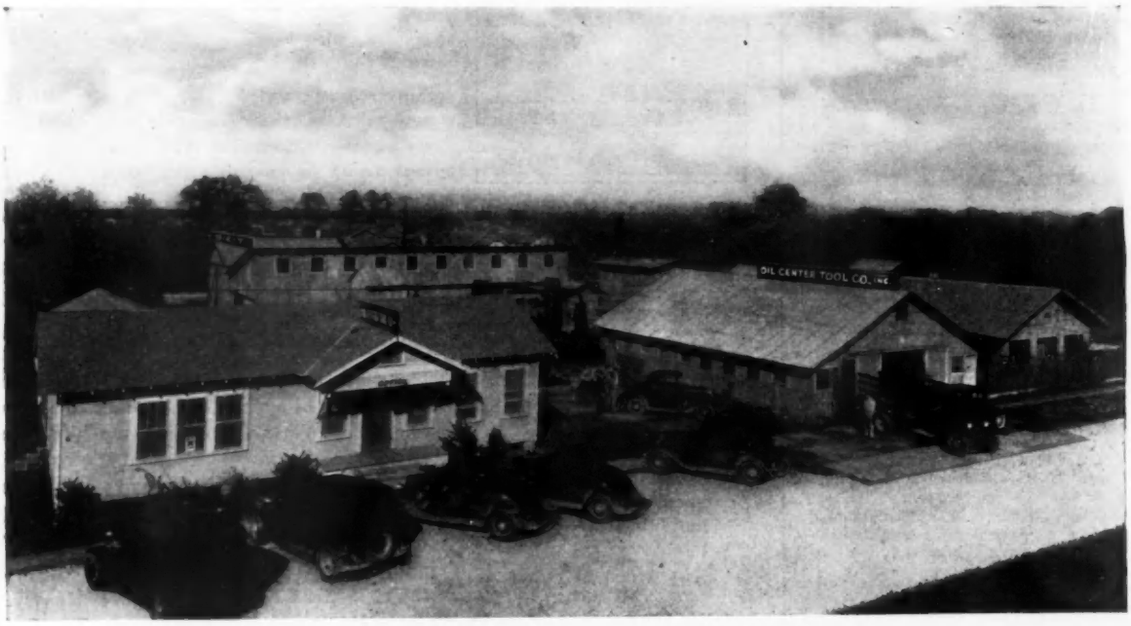
U. V. SEALES

Rio Bravo Oil Company's purchasing department staff.

Authorized Appleman Bit Service has announced an expansion of its Houston headquarters shop to provide better service on the new Hunt retractable core barrel, on which rental service in the United States and sales in foreign countries is now available.

D. & B. Emsco Division Celebrates Safety Record

D. & B. Division of Emsco Derrick & Equipment Company, Los Angeles, recently celebrated its third consecutive year of no-lost-time accidents. This division is the manufacturing unit where all D. & B. pumps, pump parts,



Office and shops of Oil Center Tool Company at Houston

sucker rods and incidental supplies are fabricated. It is under the direction of E. E. Stevenson.

A celebration of the unusual record was held May 15 at the plant. Informal talks were made by J. S. A. Smith, secretary and treasurer, E. E. Stevenson, chief engineer, P. P. Steinmetz, advertising manager, and O. Krawitz, chairman of the safety committee.

Directional Expert Will Supervise Romanian Work

Houston.—H. John Eastman, directional drilling expert, has been engaged by Societate Nationala de Gaz Metan, a Romanian gas producing company, to supervise drilling a relief well to kill a crater producer in the Copsa-Mica district, Romania. Eastman recently directed drilling a relief well at Conroe that was used to kill the flow from a crater producer.

The Romanian crater is the result of a gas blowout from 2500 feet, but course of the gas was unusual. The well threatened to blow out, but the blowout preventer was closed. The well proper was brought under control, but the pressure found its way via shallower zones, a fault and a fissure to the surface. The actual blowout and subsequent cratering occurred a few hundred feet from the well location.

The relief well will be located 500 feet from the original well, the drift to be about 500 feet in 2500 feet.

E. Guman, chief engineer for Societate Nationala de Gaz Metan, recently visited Houston and engaged Eastman for the work.

Union Wire Rope Holds Meeting During Exposition

Union Wire Rope Corporation of Tulsa held its annual directors and sales meeting during the International Petroleum Exposition in Tulsa. This photo of the officers and directors of the company was taken at the exhibit of the concern which consisted of a miniature wire rope mill with an automatic railway system.

Reading from left to right in the picture: M. G. Ensinger of Kansas City, vice president who originated the exhibit idea; R. H. Bartlett of Tulsa, president; H. L. Donnelly of Kansas City, general counsel; Hal R. Gruber of Tulsa, vice president; Jas. A. Undercofler, Oklahoma sales representative; H. Ed Frye, Kansas sales representative; Herb R. Cutlip, Texas sales representative; Senor Enrique O. Chapa, representante exclusivo para la Republica Mexicana from Mexico City; J. H. Hatch of Tulsa, secretary-treasurer; E. A. Reedy, director of the company; M. B. Hansell, chief electrician who built the exhibit and W. O. Ireland, assistant electrician, all from the factory in Kansas City.

Relations of Oil Industry and Suppliers Reviewed by Childs

HOW the code of the American Petroleum Equipment Suppliers Association is functioning among its membership as well as its relation to the petroleum industry was outlined by W. L. Childs, president, at the mid-year meeting of the American Petroleum Institute at Pittsburgh, May 24. The following excerpt is that part of his speech dealing directly with the relationships between the equipment industry and its customer the petroleum industry.

"Trade associations for the improvement of industry have existed in this country for 70 years. By 1925 there were more than 1000 of such groups in the United States.

"They carried on a number of activities such as the collection of vital statistics, cooperative advertising and credit service. But they were kept in constant fear of anti-trust action with the result that their well meant attempts to eliminate the bad practices and abuses within their industries died aborning.

"In its endeavor to bring law and order out of economic chaos, the petroleum industry stands forth as a hardy pioneer. Years before the NRA the American Petroleum Institute prepared and secured the adoption by the Federal Trade Commission of a code of fair practice covering the distribution and marketing of petroleum products. So, in speaking to you today, I feel that I am addressing a group of men who are seasoned warriors in the battle against unfair practices and unfair competition.

"It has been said that competition is the life of the trade. Just how true this statement is depends entirely upon whether it means fair or unfair competition. Take your own case; many of you are highly organized and equipped to produce and manufacture petroleum and its products in an economical way; you expect competition and if, through your progressiveness, you keep abreast of the times you are able to meet all fair competition; but if your competitor is what is termed in the oil industry a 'hot oil refiner', whose products are passed on to the public at unfair prices, then you cannot reasonably be expected to meet that kind of unfair competition.

Equipment Makers Problems

"We, of the petroleum equipment industry and trade, have had our problems; we, too, have been troubled with unfair practices; we, too, have been faced with unfair competition.

"The passing to customers of gratuities, gifts, or other payments or remuneration directly or indirectly was a pernicious evil. The pirating of designs after large sums have been expended by others in engineering and research work has given us much concern. The cancellation and deferred deliveries of orders has disrupted our manufacturing programs, has burdened our inventories, and has added to our expense. Then, too, unwarranted optimism as to the amount of business in prospect has built up excessive inventories, which in times of rapid develop-

Union Wire Rope Corporation's exhibit at Tulsa Exposition

ment such as the present mean subsequent sacrifices of obsolete stock. The rendering of service beyond that which is reasonable, has in many cases, meant the sale of merchandise below cost. The guaranteeing of products beyond the bounds of reason has caused great losses.

The extending of jobber's or wholesaler's prices to anyone who is not a jobber or wholesaler has worked a great hardship upon those you depend upon for your supplies. The demanding by operators of long term credits is another flagrant abuse. The insistence by our customers on the purchase of more of their products than could be used within a reasonable time was unfair. The loan of products without compensation has made such transactions profitless. The element of deceit and suspicion has not been missing from our operations.

"There, in brief, you have some of our problems of yesterday. We do not complain of competition. We enjoy a fight as much as anybody else; all we ask is that there be no 'hitting below the belt' or 'biting in the clinches'.

"In our industry, we have never before had a trade association or code of any kind. Under the old order of things, we were unable to meet these problems in any substantial way and so, like many other industries, we 'took it on the chin'.

Under the New Deal

"Under the New Deal, however, we proceeded to organize the American Petroleum Equipment Suppliers Association and to formulate a code of fair competition for the petroleum equipment industry and trade for we needed help and needed it quickly.

"Incidentally, our business had slumped just 76 2/3 percent below our 1929 figure, but our expenses had not slumped proportionately. So, you will readily agree with us that quick action had to be taken.

"We have approximately 750 members of our industry and trade who have filed their prices with the code authorities, most of whom are complying with all of the provisions of the code. On the other hand, there are quite a number of firms not yet complying.

One Complaint

"During the period of operations under our code, we have had just one complaint filed by a user of our products. This complaint was made by a buyer of pumping equipment. I believe when the buyer of this particular kind of equipment is advised that the steel entering into its manufacture costs $22.00 per ton more than it did in 1933 and that other items of manufacture have advanced proportionately, he will see that the new price will not produce a profit. Proration has probably had something to do with this particular complaint. Not so long ago, every operator was anxious to produce his wells at full capacity and little thought was given to the conservation of nature's own producing force—gas.

"It was common practice to buy all the pumping equipment needed upon completion of wells for it was a certainty that only a few days or weeks would elapse before it would be needed. This kept a free flow of pumping equipment through our manufacturing plants and distributing warehouses to you.

"The picture has changed; East Texas is a fair example. More than 13,000 wells have been drilled in that area and less than 10 percent have been put on the beam, and this is true in many of the other oil fields. This has reduced the sale of pumping equipment to practically nothing as compared with former years.

"Some day, you will need all of our pumping equipment, manufacturing and distributing facilities, because there will be a mad rush when the time comes to put your wells on the beam. In the meantime, we must hold our organizations together and our fixed charges will, of necessity, remain fixed. So, if, due to low production and increased costs for labor and material, the price at this time seems somewhat out of line with what it was a short time ago, please do not be too critical, for we must await the time with patience when you will make known your need for these products. Meanwhile, we must eke out an existence and we will be compelled to charge more than formerly.

A New Picture

"In the past, you have changed your drilling, casing and production programs over night, so to speak, and have thereby rendered obsolete much of the stocks of manufacturers and jobbers who had piled up inventory in order to give you the quick service you require.

"The sudden changes in plans above referred to have made us more cautious than ever before, and now many in our industry must manufacture in smaller quantities and on engineering specifications rather than on a production basis, if they are to avoid obsolescence due to being temporarily out of step with your progress. This, of course, increases our costs.

"But, getting back to the New Deal, we are firm believers in codes of fair competition. The very fact that the petroleum industry is now working under a code of fair practice has enabled it to expand its activities and we, in turn, are reaping the benefits of such expansion.

"I believe I can safely say that all of us are earnest and sincere backers of the NRA. Deep down in our hearts none of us would care to return to those conditions of economic chaos forced on us by insane competitive conditions such as existed prior to the New Deal.

"And yet there are many abroad in the land today who find this program too rich for their blood. There are those who say that competition has been eliminated, as if fair competition were not competition. There are those to whom the word competition is synonomous with price chiselling and to whom competition on the basis of quality, durability, design and field service has no meaning. To them, open price reporting is price fixing, although open prices have been the salvation of the best merchandisers in other lines for many years. There are others who say that the emergency is over, as if that should, even if true, be a signal for a return to unfair practices.

"I believe that all sound-thinking members of the industry will agree with me that should the National Industrial Recovery Act be repealed tomorrow, economic chaos would again prevail.

"The petroleum equipment industry and trade is operating under what is known as a vertical code. This differs from a horizontal code in that it covers all, with a few exceptions, of the equipment and supplies used by the petroleum industry rather than just a specific product.

"The buyer of petroleum equipment and supplies has, today, the choice of two lines of action: He can buy from those who are complying with our code or he can buy from those who are not complying with our code.

Includes the Buyer

"Codes are, by nature and purpose, such that they cannot be properly effectuated without cooperation on the part of buyers and sellers alike.

"Probably, a price differential will exist between the code complier and the non-code complier.

"Having had 11 years of experience as an oil company buyer, no one realizes better than I do that in asking you to forego this differential, I am asking you to act contrary to human nature; but I believe that anyone will admit that in all fairness and equity those who profit under the protection given them by their code should cooperate with a kindered industry serving them under another code."

Squeaks *from the* BULL WHEEL

Two negroes who had not seen each other in five years, discovered each had been married during this time.

"Whut kinda woman did youall get, Mose?" asked Rastus.

"She's a angel, Rastus, dats whut she is," replied Mose.

"Boy, you sho is lucky. Mine's still livin'," Rastus muttered sorrowfully.

Orator—And now, gentlemen, I wish to tax your memory.

Man in Audience—Good heavens; has it come to that?

"Ye're charged with bein' drunk and disorderly," snapped the magistrate. "Have ye anything to say why sentence should not be pronounced?"

"Man's inhumanity to man makes countless thousands mourn," began the prisoner, in a flight of oratory. "I am not so debased as Poe, so profligate as Byron, so ungrateful as Keats, so intemperate as Burns, so timid as Tennyson, so vulgar as Shakespeare, so—

"That'll do. That'll do," interrupted the magistrate. "Ninety days. And, officer, take down that list of names he mentioned, and round 'em up. I think they're as bad as he is."

Voice over Telephone—Hello. Hello. This is Judge Babington Peterson McFeatherson the Third. Will you please tell my son Cravenwood Rutherford McFeatherson the Fourth, that I would like to speak to him?

Frosh—Hey, Mac, your old man wants to speak to you.

Mrs. Jones—I understand you've got your divorce, Sally. Did you get any alimony from your husband?

Laundress—No. Mrs. Jones, but he done give me a first-class reference.

"Beg your pardon, but what is your name, sir?" the hotel clerk asked.

"Name!" echoed the indignant guest, who had just signed the register, "don't you see my signature there?"

"Of course," answered the clerk. "That's what aroused my curiosity."

Mrs. Newrich was riding in her expensive car, down a steep hill, when her chauffeur became alarmed.

"Madam," he explained, "the brakes refuse to act."

"Then stop the car immediately," said Mrs. Newrich. "I'll get out and walk."

"Don't you think," airily suggested the new partner, "that you ought to brush up a bit on your correspondence? Use big words; they lend dignity to your letters."

"Perhaps you're right," admitted the other, calmly studying the end of his cigar, "but, while eschewing mediocrity of expression through platitudinous phraseology, it behooves one to beware of ponderosity, and to be mindful that pedantry, being indicatory of an inherent megalomania, frustrates its own aim and results merely in obnubilation."

Two negroes were boasting about the merits and qualifications of their respective motor cars, both typical worn, shabby old wrecks.

One of them said, "Dey's jus' one reason why Ah cain't run dis heah cah o' mine 200 miles a houah."

"An' whut's dat reason?" asked the other.

"De distance is too long fo' de shawtness of de time," said the first.

A friend asked Sandy how he liked his radio set.

"It's aw richt to listen to," he replied, "but the bulbs are nae sae guid to read by."

Pastor—This morning I will have for my topic "The Great Flood in Genesis."

Prominent Member of Congregation (rising)—I've got an engagement to play golf, so I can't stay; but I'll head the subscription list with $1,000 to relieve the suffering of the Genesians.

The city-dweller was reading a newspaper when he was heard to exclaim, "Even the cows are doing it now!"

"Doing what?" inquired his wife.

"Hoarding," he replied. "Right here in the head-lines it says, 'Light native cow hides 7c.'"

Waiter—Would you mind settling your bill, sir? We're closing now.

Irate Patron—But, hang it all, I haven't been served yet.

Waiter—Well, in that case, there'll be only the cover charge.

Diner—Say, what kind of soup is this?

Waiter—Chicken soup, sir.

Diner—I don't find any chicken in it.

Waiter—Well, you wouldn't expect to find any horse in horseradish, would you?

34 of these 1600-pound test O-C-T Hook-ups on this same lease in the Freer, Duval County, Texas, field.

The men: Charlie Smith, HOMCO store manager at Freer (left), with Sy Eubanks, Sun Company superintendent. The 'tree: O-C-T Type X-8.

O-C-T assembles and tests Christmas trees with any make gate valve specified.

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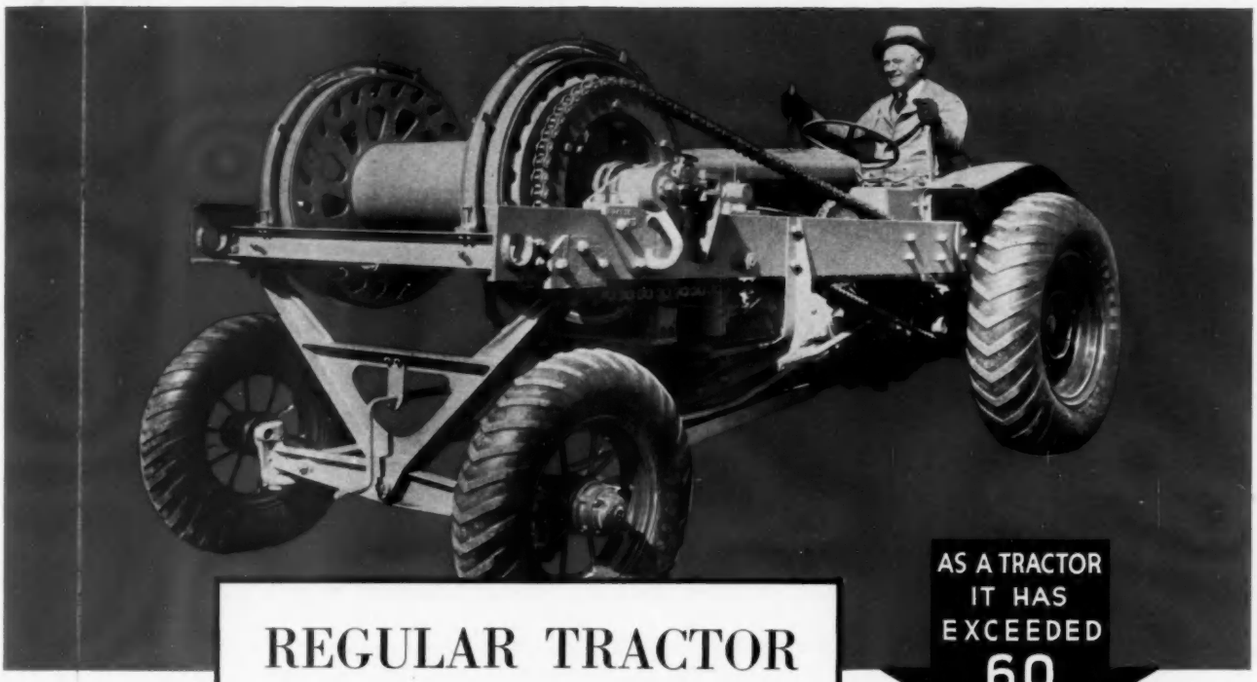

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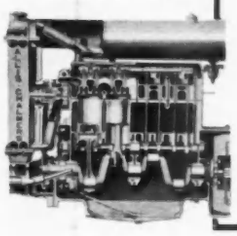

Today, when speed is a prime necessity in the oil fields, it is not enough that a tractor merely **pull** a heavy load . . . it must deliver that load quickly. For the quicker a job is done, the less it will cost.

Allis-Chalmers has built speed into its "UM" Super Winch Tractor. It is equipped with a standard 3-speed tractor transmission and a special high speed 4th gear.

It will do heavy work when great power is needed. In hauling extremely heavy loads such as: moving boilers, skidding rigs, building and maintaining roads, digging slush pits, building fire walls, and other heavy jobs, it is fast, snappy and easy to handle. Its extra-large water capacity provides maximum cooling efficiency under even the most adverse cooling conditions. When the "UM" knuckles down to a heavy load, this cooling system is so effective that there's a difference of only 6 to 7 degrees in the temperature at the top and bottom of the radiator, even with its back to the wind.

It is balanced perfectly—the largest percent of weight being on the rear wheels which gives all-around roadability and better traction in sand or mud. All four wheels have extra-large heavy-duty air tires. And powerful air-cooled brakes control the winch drum, which has a capacity of approximately 8,500 feet of half-inch line.

The A-C "UM" Super Winch Tractor has proved that it gives superior performance and has demonstrated its many money-saving features. Let it help you save time and money, too.

In a "UM," you buy the result of almost a century of manufacturing experience. Write, wire, or phone, Fred E. Cooper, Tulsa, for detailed information.

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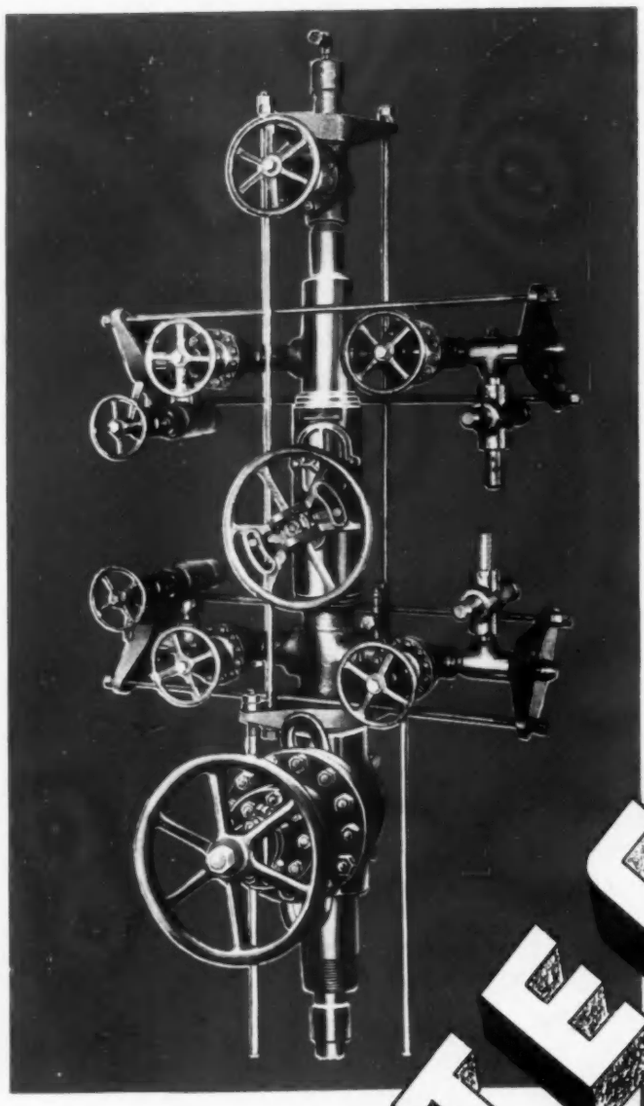

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